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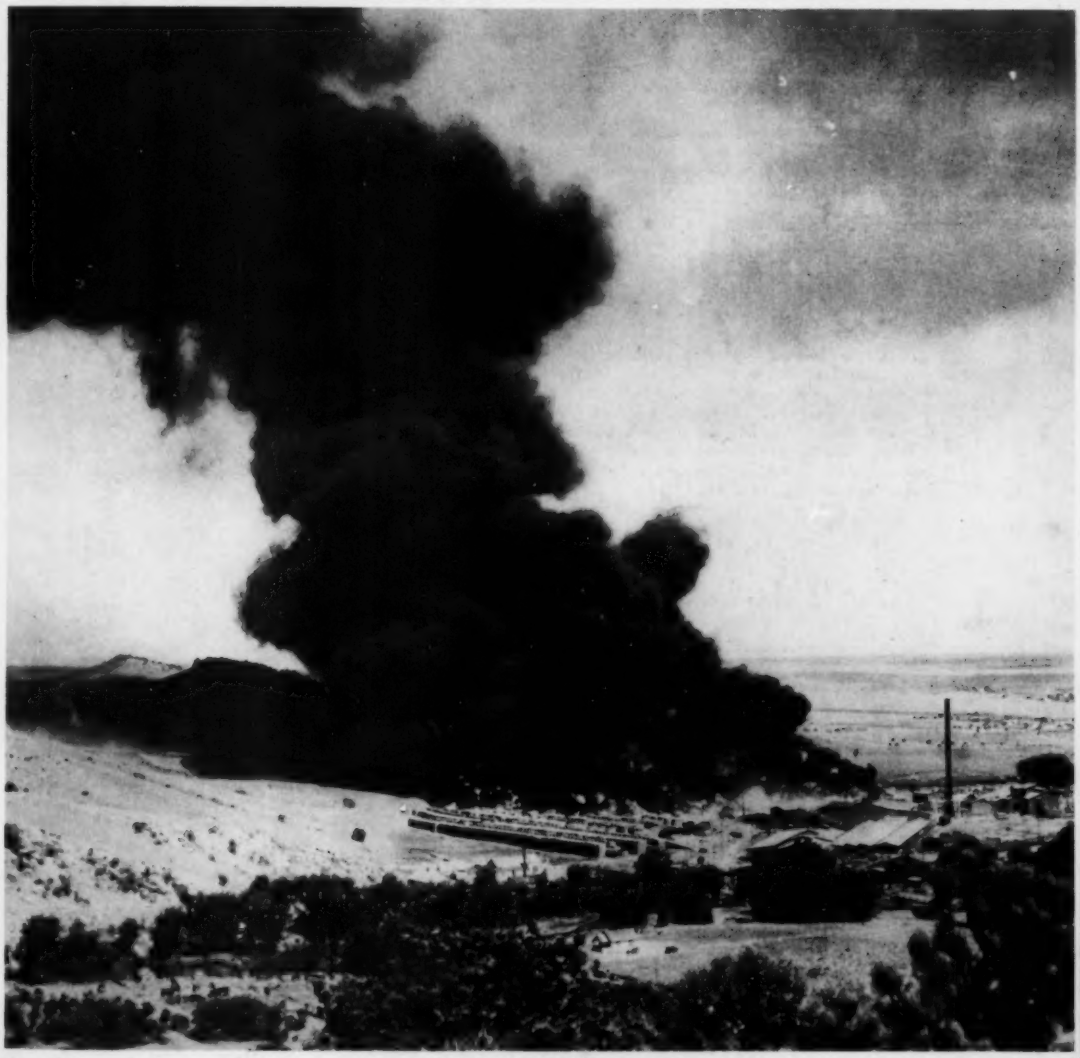
The Journal of the Fire Protection Profession

SEPTEMBER 30, 1931



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All Aboard For Havana!

JUDGING from the way things seem to be shaping up, we can tell the cock-eyed old world that the International Association of Fire Chiefs is going to have a real convention at Havana, October 14-17, particularly from the standpoint of attendance.

● The special party of eastern delegates alone, leaving New York by boat, will be by far the largest on record, with reservations already totalling over three hundred. If you haven't already made plans to go, do so by all means. It's something you can't afford to miss.

● While there will be no exhibits this year, the convention number of FIRE ENGINEERING, October 14th, offers fire equipment manufacturers splendid opportunity to effectively display their wares. It will be a corkingly good issue—be on the lookout for it.

The Publishers

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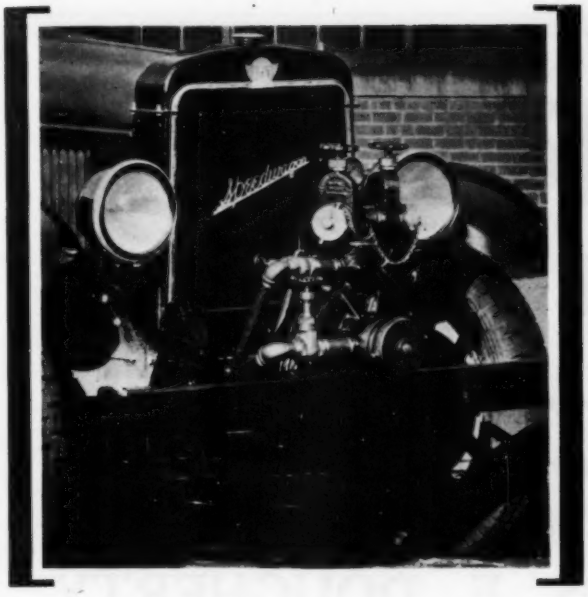

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Written by one of the country's greatest authorities on practical fire fighting—

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Acting Chief, New York Fire Dept.

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PAUL W. KEARNEY

FORTY-THREE years of active experience has taught Chief Dougherty a thing or two about fire fighting and he now tells of his experiences in this book in a way that should provide other progressive fire fighters with a wealth of helpful information.

He tells graphically the story of many sensational fires and reveals the inside facts which seldom reach the public. It is all written in a frank, interesting, straight-from-the-shoulder manner, providing thrilling reading as well as data of tremendous practical value.

This is a book no fire fighter can really afford to miss. If it doesn't give you a great deal more than your money's worth, we'll be greatly surprised.

A Few of the Chapters in "Fire"

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FIRE ENGINEERING

(A Consolidation of Fire and Water Engineering and The Fire Engineer)

The Journal of the Fire Protection Profession

VOLUME LXXXIV SEPTEMBER 30, 1931 NUMBER 20

Plan Now for Fire Prevention Week

Many Printed Aids Are Available to the Fire Chief Who Wants to Have Regular Programs, October 4-10

MOST fires are the result of carelessness. With that as a hypothesis, the various underwriting organizations and fire associations, have been trying to awaken the American public to be conscious of the large amount of tangible and untangible wealth that is destroyed each year throughout the United States. This educational program, while it is carried on each of the 365 days of the year, is especially emphasized during what has become known as Fire Prevention Week. This year the famous week occurs October 4-10. It is always so arranged that the week selected will have October 9 in it, the day on which fire broke out in Chicago in 1871 and destroyed 17,500 buildings having a property valuation of $168,000,000.

One would say offhand that after such an expensive lesson in the value of fire prevention work, the public would be more careful—more respectful concerning the handling of fire, and have a better understanding of what to do to prevent similar outbreaks. But such a statement is not true.

> **"Fire losses are in effect a tax on every man, woman and child in the United States. This is one case where the taxpayers, entirely by their own efforts, can reduce the rate. I hope we shall have no slackers in this campaign."**
>
> **—HERBERT HOOVER**

A Few of the Large Conflagrations

Since the famous Chicago fire, the more recent conflagrations during the past ten years include a $1,000,000 fire in Augusta, Ga., in 1921; $5,000,000 fire in 1922 in which thirteen buildings were destroyed in Chicago, and in the same year the destruction of 141 buildings at Arverne, N. Y., destruction of forty blocks in New Bern, N. C., and thirty blocks in Astoria, Ore.; in 1923, 584 buildings were lost in a fire that caused $6,000,000 damage in Berkeley, Cal.; 270 buildings were destroyed in Newport, Ark., in 1926; 107 buildings were destroyed at Fall River in 1928 with a loss of $2,514,000. Then there is the more recent conflagration that occurred in Nashua, N. H., in 1930 and destroyed 350 buildings valued at $2,000,000.

But often the loss cannot be measured in dollars alone. At the Cleveland Clinic Hospital fire in Cleveland in 1929, 125 lost their lives including members of the medical staff. At a night club fire in Detroit in 1929, twenty-two persons were found dead, and a few months afterwards, the same year, at the Pathé studio fire in New York City, ten entertainers were dead. Not so long ago, July 24, 1931, thirty-nine were found dead following a fire in the Home for the Aged in Pittsburgh, Pa.

All this points to the urgent need for Fire Prevention Week not only in October but to include every week of the year. Fire Departments alone cannot accomplish a Herculean task that rests squarely on the shoulders of the great American public. Firemen can make inspections, they can point out that refuse heaps be removed, that aisles be kept clear in places of public assembly, that dangerous chemicals be stored under better conditions, and so on, but it is impossible to have a fireman in each of the millions of individual homes and apartments to warn the various members of the household not to pour gasoline on slow burning kitchen fires, not to use pennies as a substitute for electrical fuses, or to tell factory hands that they must not smoke within the limits of the plant.

But even though it is impossible to station a guard in all places where fire may develop, it is possible to follow the next best program. By means of meetings, literature, posters and other printed matter, the adult population may develop a consciousness that there is some value in observing fire prevention measures, and that one's home or wife or children are too costly sacrifices for a thoughtless, careless act.

Much good has been accomplished by patient work with children. In a large number of the cities, uniformed firemen are sent to the various schools, and by means of a dummy fire alarm box, the children are taught how to properly send in a fire alarm, and they are told of the dangers resulting from the sending of false alarms. The children are also instructed concerning the hazards. The youngsters are made to feel that they are doing a great public service if they report to the nearest fire station, any existing fire hazard. In many instances, serious local conditions have been found because of the enthusiastic response by the children to the fire prevention program. And after a hazard has been found, the Chief uses the legal mechanics that has been placed at his disposal by the legislators, and either the hazard is removed or corrected, or the proper parties are brought to Court.

The public should be made to realize that the Fire Department is more than an agency formed for fighting fires, rescuing parrots from trees or performing a countless number of unclassified tasks that develop in the course of a day's work. Fire Departments are no longer purely fire fighting organizations. They have broadened their work. They are out to fight fires before they start.

Fire Chief Should Be Consultant

Each home builder should be taught that a wealth of information concerning safe homes is available to him, at no cost whatsoever, if he will but call on the Fire Chief. He should be made to realize the importance of asking that the chief detail a fireman to inspect his factory and to suggest means for making the plant a safer place in which to work.

The entire story of fire prevention rests on the one word—Education. Even though at times the work may almost seem to be hopeless, it is necessary that the meetings, the lectures and the gatherings continue until the message of fire prevention has reached every resident of the many communities.

Each year at about this time, much printed matter is prepared by the National Fire Protection Association, 60 Bat-

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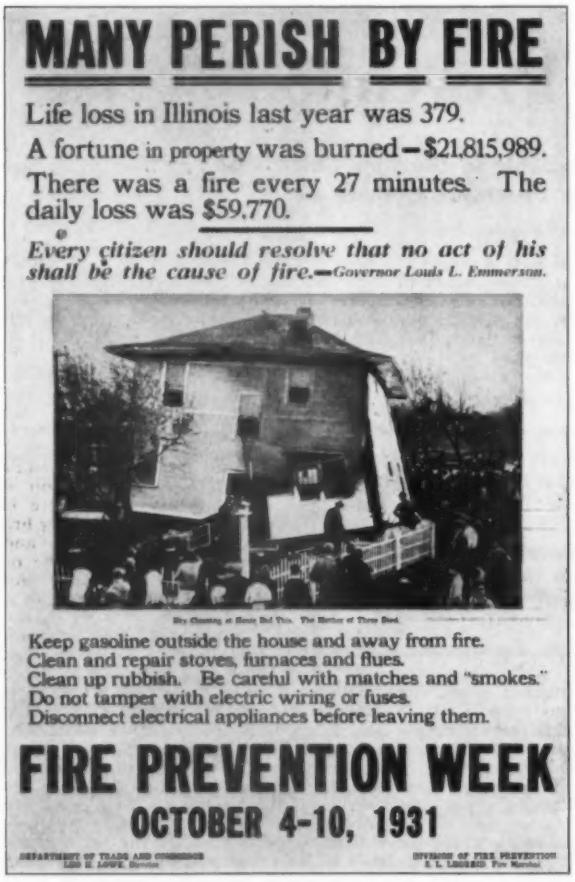
terymarch Street, Boston, and the National Board of Fire Underwriters, 85 John Street, New York City, to assist Fire Chiefs in carrying out the principles of Fire Prevention Week. Speakers are furnished by the Chambers of Commerce or the Inspection Bureaus to address meetings of local business men.

Where ever a fire prevention program has been carried out in a systematic manner, much good has resulted. Besides making the community a safer and a much better place in which to live, fire losses have been reduced, and to the property owner that means a lowering of the key insurance rate.

Lakewood, Ohio, is an example of what may be accomplished in this work. For three consecutive years it has won first place in the Inter-Chamber Fire Waste Contest conducted under the auspices of the Chamber of Commerce of the United States for cities between 50,000 and 100,000 popu-


MANY PERISH BY FIRE
Life loss in Illinois last year was 379.
A fortune in property was burned – $21,815,989.
There was a fire every 27 minutes. The daily loss was $59,770.
Every citizen should resolve that no act of his shall be the cause of fire.—Governor Louis L. Emmerson.
Keep gasoline outside the house and away from fire.
Clean and repair stoves, furnaces and flues.
Clean up rubbish. Be careful with matches and "smokes."
Do not tamper with electric wiring or fuses.
Disconnect electrical appliances before leaving them.
FIRE PREVENTION WEEK
OCTOBER 4-10, 1931

A Striking Fire Prevention Poster

Issued by the Ohio Division of Fire Prevention of which S. L. Legried is Fire Marshal.

lation, and last year, Lakewood won the Grand Award for all cities entered.

Albany, Ga., through its aggressive fire department leader, Chief Brosnan, has succeeded in lowering its fire losses and in keeping it down to a low figure.

Fire Prevention Week has become a National event. Each year a proclamation calling attention to the observance of fire prevention measures has been issued by the President of the United States.

President Hoover said:

"Fire losses are in effect a tax on every man, woman and child in the United States. This is one case where the taxpayers, entirely by their own efforts, can reduce the rate.

"I hope we shall have no slackers in this campaign."

Fire prevention does pay, even though its results are not apparent the following week. Take steps to drive home the lessons of preventing fires. Now is the time to plan your campaign.

I. A. F. C. CONVENTION PLANS NEARING COMPLETION

Encouraging Number of Reservations Received by Special Convention Parties—Indications Point to Successful Gathering—The Tentative Program

PRESENT indications point to a very successful convention for the International Association of Fire Chiefs at its fifty-ninth annual gathering, which takes place at Havana, Cuba, October 6 to 8. The several special parties to take the Chiefs and others to the convention are receiving a gratifying number of reservations. For instance, the New York and New England party now has nearly three hundred enrolled for the boat trip to Havana, and reports from other sections are equally encouraging.

Regarding the recent political unrest in Cuba, the association's representative in that country writes as follows:

"I returned yesterday from a trip to Havana and am pleased to advise that the committee in charge of arrangements are going right ahead with preparations and I trust the recent reports emanating in connection with political disturbances will not cause anyone contemplating making the trip to change his mind in that connection."

The tentative program of the convention is as follows:

Tuesday, October 13th.
Registration.

Wednesday, October 14th.
10 a.m.—Opening Session. Meeting called to order by President Joseph N. Sullivan. Address of Welcome. Response. President's Message. Memorial Service. Roll Call of Departed Members. Memorial Address.
1:30 p.m.—"Reducing Incendiarism," by John C. Moran, Chief Fire Department, Hartford, Conn.
"Investigation of Fire," by Raoul Gauthier, Chief Fire Department, Montreal, Quebec, Canada.
"Uniformed Inspection Work," by Frank Charlesworth, Chief Fire Department, Providence, R. I.
"Keeping Down False Alarms," by George W. Hedden, Chief Fire Department, Buffalo, N. Y.
8:30 p.m.—Banquet Central Asturiano.

Thursday, October 15th.
9:30 a.m. to 12 m.—"Is the Fire College a Success," by Wm. R. Anderson, Chief Fire Department, Ft. Meyers, Fla.
"The Present Day Trend in Fire Protection," by George W. Booth, Chief Engineer, National Board of Fire Underwriters, New York, N. Y.
"Lighting Up the Fire Grounds," by Henry Fox, Chief Fire Department, Boston, Mass.
"Estimating Fire Losses," by Oliver T. Sanborn, Chief Fire Department, Portland, Me.
Round Table.
2:30 p.m. to 4:30 p.m.—"Heading Off Holiday Hazards," by James McMillan, Chief Fire Department, Orange, N. J.
"Rendering Aid to Neighbors," by Peter Steinkellner, Chief Fire Department, Milwaukee, Wis.
"Lesson of an Asylum Fire," Richard Lee Smith, Chief Fire Department, Pittsburgh, Pa.
"Essential Drills for Modern Departments," by John J. Towey, Chief Fire Department, Newark, N. J.
9:30 p.m.—Buffet Dance and Typical Show at Plaza Hotel.

Friday, October 16th.
9:30 a.m. to 12 m.—"Developing Cooperation between the State Fire Marshal and the Municipal Department," by Sherwood Brockwell, Insurance Department, Raleigh, N. C.
"Training the Men in First Aid Work," by Charles A. McGinley, Chief Fire Department, E. Orange, N. J.
"Keeping the Apparatus of a Big City in Operation," by Hubert J. Treacy, Chief of Bureau of Repairs and Supplies, New York.
"Rescue Equipment at a Difficult Fire," by M. J. Corrigan, Chief Fire Department, Chicago, Ill.
2:30 p.m.—Sightseeing—Exhibits.
Night. Free.

Saturday, October 17th.
9:30 a.m. to 12 m.—Business. Constitution Revision. Reading Reports. Election of Officers. Selection of next Convention City.
2:30 p.m.—Luncheon Tropical Gardens and Sightseeing Combined.

Planning Response to and Enforcing Payment for

An Outside Code Call System

A Double Card Plan for a Small Department which Insures Payment for All Out-of-Town Calls—How the System Works

By GLENN C. CRAFT, Secretary, the Grays Lake, Ill., Fire Department

A serious Fire Department problem, and one that has given Chiefs many anxious hours of consideration, is that of the answering of calls outside the city limits. Should such call be answered, and if so, how much should be charged and how should the money be collected? The plan described in the following paper seems to contain many points in its favor and is worth investigating:

GRAY'S LAKE is a village of twelve hundred population, located in Lake County, Ill., forty-five miles from the loop of Chicago, on route 21, (Milwaukee Avenue) out of Chicago, and lies in the heart of the famous Lake Region of Northern Illinois.

It maintains a Volunteer Fire Department of sixteen well trained men; the equipment is a Peter Pirsch Special Truck Combination, with a five hundred gallon pumper; two booster tanks with a combined capacity of one hundred and sixty gallons and carries fourteen hundred feet of 2½" hose.

We are located in the center of seven large lakes that lie within a radius of three miles on all sides of us, and each one of the lakes have one or more Subdivisions, besides the shore lines being covered with cottages, hotels, etc., which makes our local vicinity very heavily populated, especially through the summer months. About seventy-five per cent of the cottages and subdivisions are of cheap frame construction and are built in among trees, which make fire hazards due to dry leaves, dry grass, etc.

Haphazard Method of Payment for Outside Call

Starting at the time of the purchase of our first motorized truck and apparatus (which happened to be a Model T Ford with a three hundred and fifty gallons Watrous pump) in 1921, we received and responded to many calls outside our village limits, for which calls we were supposed to receive compensation. Sometimes we were successful in collecting and sometimes not. Although we advertised in our local paper at different intervals that there was a charge made to those outside our village limits, it did not seem to help much in the collections.

As time passed, we were called on more frequently, and many of the calls were useless ones, such as rubbish fires, etc., that could have been put out with a bucket of water or any kind of an extinguisher, but instead, the public had a habit of calling for the Fire Department at a distance from one to five miles away. After we responded to the call, then try to collect!

Adopt Call Code Card System

After several years of this kind of service and treatment, we commenced to plan on some kind of a system that would eliminate a lot of these useless calls and make the calls answered collectible. We inquired around of our sister towns with Fire Departments as to how they handled the situation and we found one of them, with a Volunteer Department, had made an attempt to put in force a code call system, but never had enforced it very rigidly.

We made a study of the system and after improving on it, we adopted what we call a Code Call Card System for calls outside of our village limits, and it has proved a great success.

In 1922, our Village Board drafted an ordinance to the effect that the Fire Department should collect and pay into the Village Treasury the sum of $25 for each outside call for service of the fire truck and equipment, and another charge of $1 per hour per fireman accompanying the truck. However, the Village Board have always been lenient with the Fire Department. If the department could not collect the $25, the Board did not make the department pay it.

Two Cards Used in System

In adopting our Code Call System, we had two sets of cards printed; one card has printed upon it instructions as to how to call the Fire Department; the charges for the call which is a flat rate for the first hour and an additional charge for each additional hour or fraction thereof; and a number. The party applying for the protection retains this card. The card also is dated for the year for which it is issued. The other card has printed upon it a form of contract and the charges per call, also a number to correspond with the number of the card retained by the applicant. The date also corresponds with the card retained and this card is signed by the party asking for protection.

A charge is made of $1 per year, or fraction thereof, for the cards, and this is paid in advance. The charge does not apply on a call of the department in case there is one.

Our fiscal year is from July 1 to July 1, to suit local conditions and no cards are issued for a broken year. That is, if a party applies for a card at any time, it is only issued to the following July 1. We did this to eliminate bookkeeping and to have all the cards due at the same time.

Method of Distributing the Cards

In order to distribute the cards in our outlying districts and not to pass anybody up, the sixteen members of our department were divided up into four groups of four men in a group, and a certain territory was allotted to each group. On starting out with the cards, each group was instructed not to insist on anybody buying the cards, but explain to them our system and why we adopted it; also to inform them that unless they purchased a card, we would not answer any fire call to them, but if they did purchase the cards, we were obligated to them to respond, but they were also obligated to us to pay the charges for the call as printed on

"We have received a number of calls from parties who did not think it worth while to have our protection and refused to purchase the Code Cards, but the calls went into history unanswered. We also have had lots of calls that we have answered to parties in good standing, and as yet have had no trouble in making collections for the calls."

the Code Cards, one of which they have to sign to that effect.

How the Card System Works

The party calling for the Department must give their name, their Code number and location, and in order that there will be no delay in the Fire Department responding to the call, we have a Master Chart in our Fire Station, with the name and number of each party that purchased a Code Card. The number appears in front of his name and the numbers run in rotation. In case of a call, the Truck Driver looks at the chart and if the name and number of the party calling is O.K., we are off! If not, there is nothing doing on the call.

In other words, our chart works as follows: If John Doe has purchased a Code Card and is in good standing, his name appears on the Chart and he gets the service of the department upon a call from him, but if John Brown puts in a call and his name and number is not on the Chart, he gets no service from the department.

Code System Eliminates Useless Calls

We adopted the system and put it into effect July 1, 1930, and are stricty abiding by it. Since that date, we have received a number of calls from parties who did not think it worth while to have our protection and refused to purchase the Code Cards, but the calls went into history unanswered. We also have had lots of calls that we have answered to parties in good standing, and as yet have had no trouble in making collections for the calls.

So our Code Card System has done two things for us. It has eliminated a lot of useless calls and has made the calls we do answer pay out.

The writer wishes to say that we never have, except on one call, had any trouble from the farmers in our rural district in making collection, but plenty of trouble from the summer residents in the lake resorts, but the Code Card system put them all on the same basis.

The cards have all been handled through the mail by the Secretary of the department, except the first year when they were distributed by the committee as before stated.

If there is any Fire Department experiencing the same trouble that we had on country calls and want to adopt our system, the writer would be glad to give them more information at any time or assist them in any way.

(Excerpts from a paper read before the annual convention of the Illinois Firemen's Association.)

Boy Scouts Stage Novel Exhibit

Boy Scouts of the Blackhawk area under the direction of the Fire Department of Rockford, Ill., conducted an exhibit on rural fire protection during August and September at five county fairs in this territory. The program of fire protection education was handled by Eagle scouts trained under the direction of Fire Department officers.

The display was arranged in four groups: One section showed a plan for rural fire protection, the method of zoning the entire area so that it could be fully protected, a model zone with a study of road conditions and a system for road marking, a plan for fire alarm transmission with an explanation of the phantom box plan, and the organization plan for the zone association.

Another group had a model showing the farm with its common hazards, the operation of auxiliary fire appliances by members of the farm unit, and a sketch of fire prevention methods on the farm.

The third section presented an idea for the transmission of alarms based on the multiple call system, model apparatus showing the use of booster tanks and practical hose layouts, and a running card system for the phantom box plan.

The last group had exhibits of tools including in extinguishers, samples of hose and common forceable entry tools for farm use.

An inhalator team, trained by rescue men of the department, demonstrated artificial respiration and the use of the inhalator.

Much favorable comment resulted from this exhibition. The American La-France & Foamite Corporation, and the Mines Safety Appliance Company contributed largely to the success of the show by loaning extinguishers and rescue equipment.

Hicksville May Have New Station—Hicksville, N. Y., is planning to erect a new fire station.

EX-CHIEF JOHNSON, BRIDGEPORT, KILLED WHILE CROSSING STREET

Was One of the Founders of the New England Association of Fire Chiefs—Retired in 1928 After Serving 36 Years in Department

By THOMAS F. MAGNER

EX-CHIEF DANIEL E. JOHNSON of the Bridgeport, Conn., Fire Department, one of the most outstanding fire fighters in New England, was struck down by an automobile while crossing a street on September 11, and he died six days later in the St. Vincent's Hospital. He was seventy years old but was still enjoying rugged health. On August 1, 1928, he retired after serving thirty-six years in the Bridgeport Fire Department.

The Late Ex-Chief Johnson

The ex-Chief was made a callman in September 1890. In those days a man had to serve as callman before he could hope to obtain an appointment as a permanent man. On June 1, 1892 he was made a permanent fireman and assigned as a tillerman. One year later he was made driver of Engine No. 3 and on April 1, 1895 was promoted to captain of Engine No. 1. At the same time he was named hydrant inspector.

In October, 1908, Mr. Johnson was advanced in rank to First Assistant Chief. His appointment as Chief of the Department came on August 1, 1915, when he was named to succeed Edward Mooney. "Dan" Johnson, as he was affectionately called by hundreds of friends and admirers was known as one of the most expert fire fighters in the east.

During Chief Johnson's service with the Bridgeport Fire Department he saw it change from a partly volunteer force of callmen to a fully paid and permanent department, and from horse and hand drawn vehicles to a full motorized department. He was an ardent advocate of motorization, and under his direction the department became one of the most efficient in the country.

The deceased was a native of Lowell, Mass., but moved to Nashau, N. H., at an early age. He was educated in the

Remains of Ex-Chief Johnson Borne From Home

schools at Nashau and learned the trade of iron moulder. He came to Bridgeport in 1885 and followed his trade until his appointment as a fireman.

Chief Johnson always kept in close association with fire fighters of other cities and was the author of many interesting articles dealing with fire department work. He was one of the organizers of the New England Association of Fire Chiefs and was host to the first gathering of that organiza-

(*Continued on page* 731)

The Volunteer Fire Department

By N. N. WOLPERT,
Assistant Editor, FIRE ENGINEERING

A Series of Articles on Volunteer Fire Department Administration and Operation.

The Care of Fire Department Hose

This article, the tenth of a series, describes some of the common causes for the short life of fire hose, and it explains how it is possible to prolong the period of service for Fire Department hose. As the care of hose is a most important subject it is suggested that all members of the company be directed to study this chapter.

MEMBERS of a volunteer Fire Department often fail to appreciate the many ways in which it is possible to injure fire hose and to make it unfit for regular service. On the other hand, the purchasing committee of the department, or the village officials, are too prone to blame the manufacturers for the decreased life of some sections of hose when the trouble may be traced to firemen who have not been properly trained in the care of fire hose.

In a small department the hose should be discarded because of its age, and not because of blemishes resulting from the misuse of hose.

The customary injuries to a length of hose may be classed under three heads; Mechanical injury while the hose is in service, injury by heat, and injury caused by chemicals.

Mechanical injury is caused from cuts to the jackets by glass nails, sharp corners, and abrasions.

When hose is connected to a pumper and water is sent through it, the hose pulsates or vibrates. The greatest pulsation takes places near the pumper and the intensity of the vibration decreases with the distance from the pumper. The pulsations are gradually absorbed by the elasticity of the hose which acts through the length of the line in smoothing out the vibration. Near the nozzle, the hose is comparatively without vibration.

When hose is placed on the ground, it is impossible to go over the ground with a magnifying glass to remove every sharp edged object. But where a length of hose passes over a sharp corner or over another length of hose, it is mandatory that a packing made of burlap or a block of wood be placed to prevent the wearing through of the outer jackets.

Frequently at acceptance tests conducted by the Underwriter's, a new length of hose will give way, and the manufacturer is blamed for defective hose. Many times after the hose had been examined on the ground, it was found that the hose vibrated on a sharp edged stone, and that after thirty minutes or more of continually rubbing against the stone, a hole had been worn through the hose.

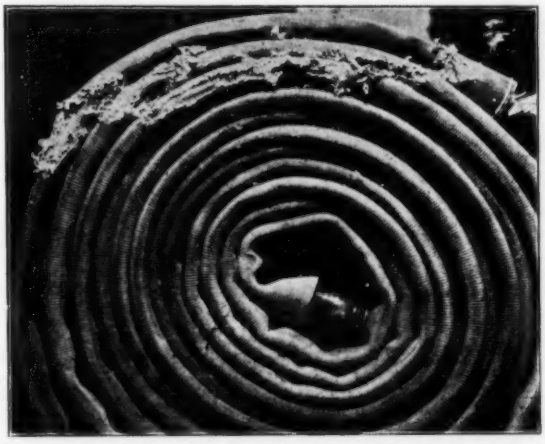
It is difficult to detect the motion in hose caused by the pumper, but if one places the tip of his finger on the hose, one can feel the tingle caused by the pulsations.

Heavy vehicles crossing over hose lines, especially while the line is flattened out, will cause severe injury to the hose. Such injury will tear the rubber lining away from its outer jacket and will start the crimping of the lining. There should be a strict department rule, enforced by the police, that it is a misdemeanor to drive over fire hose.

Hose Blocks

Departments should provide themselves with blocks as illustrated, connected with chains, so that apparatus rolling up to a fire, can safely cross over lines placed in the street. The blocks are slightly higher than the outside diameter of the hose, and the taper of the blocks is designed to give an easy passage over the hose which is placed between the two blocks. Two sets of blocks are necessary at each point so that the hose may be protected against the possible damage of all the wheels of the vehicle, when it passes over the hose.

After fire lines have been established, all traffic should be detoured to safeguard the hose lines from injury. Frequently this is not possible without seriously interfering with the flow of traffic. A method for solving this difficulty has been developed at Staten Island, N. Y., and used with a great deal of success. A ladder is placed upright on each side of the street and the length of hose is carried over the street and supported by the ladders. The line virtually becomes a suspension bridge with the two upright ladders acting as the supports at either end of the street. Traffic can pass under the suspended line without damaging the hose.



A Length of Hose That Was Badly Damaged by Acid

This coil was returned to the manufacturer as being defective. It is a case of acid damage, and as the damage is localized in one portion of the coil, the damage was caused after the hose had been coiled in service.

But a great deal of work could be avoided if the Fire Department made it a rule to use the hydrant on the same side of the street of the fire. Then the hose lines could be placed alongside the curb, and if two lines are needed, they could be placed parallel. Apparatus passing in front of the building on fire would not have to cross over a hose line.

If it is not possible to have a hydrant on the same side of the street as the fire, then a hydrant on the opposite side must be used. But the line should be stretched parallel to the curb on the same side as the hydrant to a point opposite the burning building, and it should cross over there. In other words, the line should only cross over in the vicinity of the fire.

Vulcanization Started by Heat

Heat will seriously damage fire hose.

The cotton tube of the hose is lined with rubber to make the hose waterproof. Rubber is not a stable article, and no matter how much care and attention is given to the rubber, it will not stay in its original condition indefinitely. However, proper care will hold off, as long as possible, the ultimate time when the lining will go bad.

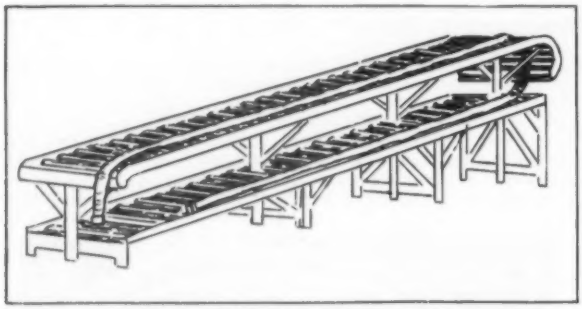
Fire hose lining is made of plastic rubber to which is added sulphur. The mixture is heated to produce the vulcanizing or toughening of the rubber. This vulcanization is speeded up by high temperatures or takes place more gradually at room temperatures. Therefore the higher the temperatures to which the hose is exposed, the more rapidly will the lining

harden. If hose is placed next to steam pipes, it will not be long before the lining will become hard and will crack the first time the hose is bent.

Hot oils or greases in contact with the hose will produce the same undesirable results, but in addition, the hose is damaged as the result of chemical action.

Hose should not be placed near steam pipes or radiators and care must be used in regulating the temperature of the storerooms or drying tower so that the hose will not be subjected to injurious temperatures.

It is very often difficult to guard against injury by chemicals. Where the department is called to fight a fire where there are chemicals stored, the water used on the fire soon becomes saturated with them, and the hose lines often become immersed in the chemical-charged water. All this may



A Home-Made Hose-Drying Rack

take place without the knowledge of the firemen so that when the hose becomes defective, the cause is difficult to trace.

Gasoline is a solvent for rubber—it will dissolve rubber. If the least bit of gasoline works its way through the cotton jackets and reaches the rubber lining, it will dissolve the cement which holds the lining to the jacket. Then when the hose is again used, the lining may break away and cram down one end of the section and cause either a complete or partial stoppage of the water flow.

Gasoline Damages Lining

Not only does gasoline dissolve the cement in the hose and permit the separation of jacket and lining, but it also acts on the rubber lining and causes its rapid deterioration. Gasoline may be the cause of the so-called "manufacturer's defect." A prominent hose manufacturer told the following story to indicate how, unknown to the firemen, it is possible to have hose damaged by gasoline.

A section of hose was sent back with the claim that it was defective. A careful examination showed that the lining had separated from the jacket at two different points. The purchaser claimed that the firemen were most careful and that no gasoline came in contact with the hose, and that the damaged section was not in service until the day the blemish was discovered. A representative of the manufacturer was sent to the department to examine the balance of the hose. He examined the hose directly under the gasoline tank, for frequently hose will be damaged because of a leaky gasoline tank. But there was no leak.

As the gasoline in the tank was at a low level, he suggested that the apparatus be driven around to a neighborhood gasoline station and the party who usually furnished the gasoline, was instructed to fill up the tank. After the tank was filled, the attendant at the service station stood talking to the Fire-Commissioner, and while doing so, swung the hose, which was still dribbling, over the hose body. Four or five lengths of hose received a liberal spray of gasoline. The Commissioner then called the driver's attention to what had just happened, and the driver remarked that he had remembered seeing gasoline spilled on the hose at a previous time but thought nothing of it.

Depending upon their composition and fluidity, oils and greases each act in a different way on the hose. Thin oils and greases which readily go through the jacket are more serious than the thicker oils and greases that tend to remain on the surface. Almost any of the oils soaking through and coming in contact with the rubber lining tends to destroy the hose. Once the oil soaks through, it remains in the fibre and continues to do its damaging work.

Paints damage fire hose because of the oils contained in mixing the ingredients. Many companies thoughtlessly paint fire hose with oil paint so that there will be some distinguishing mark when the men pick up the hose.

One manufacturer received a section of hose with the statement that it was defective. The purchaser claimed that along one side of the hose, the lining had separated from the jacket. No chemical examination was necessary to find the trouble for on the outside of the hose, along its entire length, was painted a white strip. The white mark was put on so that each company, after a fire, would claim its own hose. But the oils in the paint had soaked through and had dissolved the cement that held the lining to the covering.

When a new shipment of hose arrives, and it is felt that the hose should have some distinguishing mark, *don't use paint*. The hose may be stenciled with indelible ink, and even then only enough of the ink should be brushed on to color the surface of the jacket. It is not necessary to saturate the cotton with the coloring medium.

Not all the damage to fire hose results from damaging the rubber lining or the rubber cement. Acids act on the cotton fibre used in the jackets or coverings. One who has worked with storage batteries, and knows how quickly a drop of the battery acid will eat through cloth, can appreciate how serious it is for acid to get in contact with the jacket of fire hose.

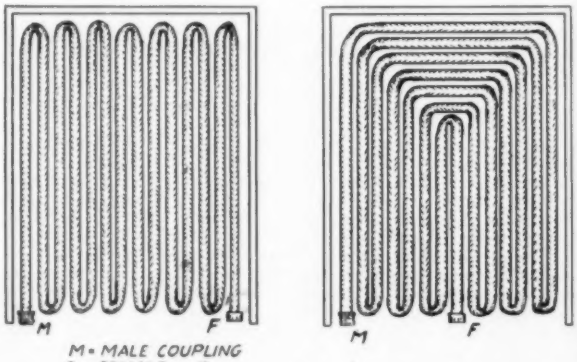
Characteristics of Acid Spots

Acid damage is unmistakable. Where there is a damaged spot on the surface of a jacket, it is easy to tell if the trouble was due to acid. Each acid will act in a different way.

Some acids will brown the hose jacket instantly while others will merely cause the fibre in the jacket to take a powder form. Acid will destroy the covering but will not injure the lining.

If spots are found on the hose which, on being rubbed, give off a powder form of cotton, and which show actually no strength of fibre, it is safe to assume that acid was present. A simple test to follow to check if the trouble was caused by acid, is to taste a bit of the powder rubbed off the hose. If this has a sour or acid taste, it is acid. Do not use this test unless the hose is dry and the acid has had a chance to dissipate its energy.

Strange as it may seem, it is very easy for acids to come in contact with hose. Consider the discharge from portable



An Improved Method for Folding Hose on Apparatus

fire extinguishers. The first spurt of the fluid out of the container generally contains an excess of acid, and if this falls on the fire hose, the jacket will be damaged. The trouble may be due to firemen who are careless while charging soda and acid extinguishers or chemical tanks. Acids may also be found in garages or places where industrial processes are followed.

There is no possibility of the hose being damaged by acid in the hose factories because acids are not commonly employed in these plants. If acid damage is found, it is almost certain that the damage was caused after the hose was delivered to the Fire Department. As a precautionary measure, when new hose is received, examine it carefully to see if the hose came in contact with acid during its shipment.

After hose has been exposed to acid or acid fumes, the hose should be thoroughly washed to remove the active portions of the acid and to arrest its work. If, after the hose is returned to the station, there are signs of oil or grease on the hose, the suspected spot should be scrubbed with a stiff brush dipped in warm (not hot) water. This will remove the

(Continued on page 730)

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

IT'S twelve o'clock.

The whole community seems to sense the information at once. Housewives look up at the kitchen clock and remark that the timepiece is running slow again while clerks in stores breathe a sigh of relief as they prepare to enjoy their lunch hour.

"How thoughtful," the visitor to the village remarks, "for the officials to order that the correct time be given at twelve o'clock."

But the visitor fails to realize that the time signal service is only an indirect result of a more important task. Officially it is the daily testing of the fire alarm siren so that the firemen may know that their audible signals will operate properly, if needed for an emergency.

In the larger cities where a system of tappers and underground wires has been installed, no one but the men in the service know when the tests are being made. In the smaller communities where fire sirens or whistles are used to call the firemen, the whole town, or to be exact, those within range of the signal, know when the device is being tested. Sometimes, in order to avoid possible confusion with other whistles, the siren is tested later in the day, or even earlier, but as a rule there is a test signal of some kind.

In the box on this page is the problem in full that is treated in this issue, and which because of the many responses, was continued over from September 16 issue. In the box on the following page is the question that will be considered in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

HERE IS THE PROBLEM

Do you have test calls on your siren each day and when is the test blast given?

Has confusion resulted from blasts blown on your siren and the one in the neighboring villages?

If so, how have you remedied the situation?

What has been the farthest your signals have carried?

Discussion of the Question

It is interesting to note the range of some of the sirens or whistles employed for fire signals. Because of the topography and the varying horsepower of each installation, it is impossible to establish a fairly accurate average. It is also worth while to note that little confusion has been reported as the result of signals in nearby towns. The replies that have been received follow:

F. C. Pfaender, Chief, Winter Haven, Fla.: We do not test our siren every day. I am very much opposed to a daily test for if the blast is given at noon and some men are working and have watches that are not accurate. They may jump in their automobile, rush to town, and believe there is a fire. Then on the other hand, a man may look at his watch, note that the time is near twelve and then consider that the blast was merely the noon test signal, while actually it was prompted by a report of a fire. I believe that a siren should be used exclusively for reporting fires. Then when a man hears the siren, he knows that there is a fire and that he must report.

A siren is a simple thing, just a motor with number of blades on each end of a shaft. If the electrical lines are in good shape and the fuses are tested once in a while, say after a bad electrical storm, I can see no reason why the siren should not operate. If a little oil is used once in a while and simple precautions followed, the siren will be in good condition. It is just as easy, in place of the daily siren test, to take a lamp and test the fuses instead.

Our city officials used to have us blow the siren for different occasions but I showed them where it was wrong and they agreed with me. Now we only use the siren in case of fire, and we find that the plan works well.

M. R. Brockett, Chief, North Haven Volunteer Fire Co., North Haven, Conn.: We have a single head Sterling Siren. No test calls are blown as the siren is blown from my home on telephone alarms and there is no one on hand to regularly blow a test.

The Mt. Carmel, Hamden Fire Company have a similar siren. They are located about three miles west of us. People living in the eastern part of our town about two miles to the east of our siren and on higher ground are sometimes unable to tell which siren is blowing as the sound from the more distant one seems to be carried across the valley to them. Nothing has been done about it as no confusion has resulted except as the result of curiosity of persons who want to know where the fire is.

Our siren has been heard at a distance of between four and five miles on still nights.

Robert C. Howe, Chief, Ft. Bragg, Cal.: We test our siren every day at noon.

No confusion exists with surrounding towns for the nearest one is twelve miles distant.

Sunday morning, August 30, at 6:30 a.m., the sirens blew for a fire and the First and Second Assistant Chiefs were hunting at Ten Mile River—ten miles away and they counted the blasts

Edwin Bladholm, Chief, Englewood, Col.: We had no test calls when a siren was used as it caused too much confusion. As soon as the siren was blown everybody in town headed toward the fire.

We believe the system we now use for fire alarms has the advantage over the siren system for speed and locating the fires. The telephone company has been generous enough to do this for us. Every firemen has a telephone and the operator has a list of each telephone number. When she receives a fire call she goes right down the list and calls each fireman. The first six men called are officers and the firemen are called according to their experience and willingness to work. No one knows where the fire is except the firemen and we can make good time getting to the fire.

Frank Morrison, Chief, Sparrows Point, Md.: We have no siren as a fire signal but we use one large steam whistle operated in conjunction with the fire alarm system giving code blasts on a whistle same as box number. When a box number is called the same signal is given on the

whistle at the same time the gong strikes in the headquarters. Every volunteer knows the code. We carry some 240 pounds of steam pressure on the whistle from high pressure boilers.

There never has been any confusion because the test is sent in at 12:30 noon daily (except Sunday and Holidays). There are two blasts given by means of the Morse key and only one round of the box sounded then the box is plugged out for the next three rounds.

According to wind direction and a clear whistle, I have heard our signal at a distance of eight miles. This may sound unusual but it is a fact.

W. H. McConkey, Chief, Montpelier, Ind.: Our siren is given a test blast each day at 12 noon. We have not experienced any confusion resulting from blasts blown on our siren and the one in our neighboring villages. About five miles is the farthest I have any knowledge of the siren being heard.

James W. Dibble, Chief, Old Saybrook, Conn.: We have test calls daily at 12 o'clock.

No confusion has arisen from the blowing of the siren due to the fact that our siren has an entirely different tone than the three in the surrounding towns, which can be heard very plainly when the wind is just right. I have been six miles from our town, and when the wind is just right, have heard our siren.

C. M. Day, Chief, Huntingburg, Ind.: I am sorry to say we have no siren but certainly approve of one. Hope to have one some day in the future.

Wm. H. Cook, Chief, Rochester, Ind.: We test our siren every day at noon, with one short blast. We have two switches one for the test that blows steadily and the other is hooked up with control for fire calls.

We have had no confusion in the ten years that I have been chief. The siren has been heard at a distance of eight miles.

Phil A. Adams, Chief, Lincoln, Me.: We have no fire siren in this locality; the mill whistle is used for our signals.

E. L. Dean, Chief, Greenville, Me.: The Church bells in our town are used to call the men out for fires; we have no siren.

R. K. Teel, Chief, Hackettstown, N. J.: We have test calls on our siren each day at 12 o'clock noon.

We have had no trouble or confusion resulting from blasts blown on the neighboring villages' siren due to the fact that the nearest alarm is ten miles away.

Our signals have carried as far as six miles.

F. H. Smith, Chief, Abingdon, Va.: Yes, our siren is tested daily at noon except Sunday, primarily to found out whether it is in working order. We have had no trouble with neighborhood interferences.

Reports come of hearing our siren approximately 5 miles when wind is favorable.

E. J. Hutchinson, Chief, Boothbay Harbor, Me.: We do not have a siren for a fire alarm but we use a compressed air whistle. A test is given every day at noon.

I do not test my traffic sirens.

E. E. Dionne, Chief, Van Buren, Me.: We have test calls on our siren each day at noon and another at nine o'clock at night.

We have never experienced any trouble or confusion from neighboring sirens. It is said that our siren has been heard between six and eight miles from our town.

W. A. Easom, Chief, Laurel, Del.: We do not test our siren daily, it is only tested once a week on Monday night at 7 o'clock. We have not experienced interference from neighboring villages because the nearest siren is seven miles. Our siren blasts have been heard some 5½ miles away.

A. O. Eastman, Chief, Jennings, La.: We blow our siren at 12 o'clock about once a week, unless at the appointed time a fire alarm is sent in.

We are not bothered with any confusion from neighboring sirens for the nearest town is ten miles away.

Our siren is heard regularly at 5 miles but on a cool night it is heard from seven to 10 miles and I have been told it had been heard twenty miles away.

We have our siren connected to the telephone so that when the central rings the phone, it starts the siren.

A. H. Damon, Chief Limestone, Me.: We have test calls on our siren each day and they are given at 12 o'clock noon and at 9 p.m.

We have not had any trouble with neighboring sirens. Our signals have carried as far as four miles when there was no wind, but the average is two miles.

E. H. Gentry, Chief, Garden City, Kan.: We test our siren at noon hour each day. We have not experienced any confusion due to the blasts of neighboring sirens. Our siren has been heard at a distance of ¾ of a mile.

Ellis Gibson, Chief, Bartow, Fla.: We have no siren but use the steam plant whistle instead. The signals from this whistle have carried as far as six miles.

H. Leland Law, Chief, Hartsville, S. C.: We have test calls on our diaphone at 8:15 a.m. This is two taps and is used for the school call. We have the Gamewell system and we have thirty-two boxes with a diaphone horn. We have not experienced any confusion from the blast blown on neighboring sirens. Our signals have been heard nine miles away.

Harry Hancock, Chief, Dover, Del.: We use both a bell and a siren for our fire calls and these are tested at 12 o'clock noon every day. We have not been troubled by sirens in the neighboring villages. Our signals from our bell and siren have been heard nine miles.

W. F. Tews, Chief, Hillsboro, Ore.: We do not have test calls. When our siren sounds it means fire. Our nearest town being three miles away, we do not have any confusion when their siren is sounded. Our siren has been heard as far as sixteen miles away.

J. A. Carlson, Ex-Chief, Newtown, Conn.: We have test calls on our Sterling 5 h.p. siren at noon each day. We have had no trouble with neighboring siren when blown.

Our siren has been heard about seven miles.

K. A. Young, Chief, Mt. Rainer, Md.: We do not have test blasts on our siren. Our siren has been heard as far as eight miles.

A. P. Woodward, Chief, Danielson, Conn.: At 7:05 p.m. daily test calls are made on our siren. No confusion has resulted from blasts blown on our siren and the one in the neighboring villages. Our signals have carried as far as nine miles.

Chief Fire Dept., Richland Center, Wis.: No test blasts are given on our siren daily, nor have we had any trouble with blasts from our sirens and those in the neighboring towns on fire calls. Our signals have been heard eight miles away.

Kenneth Thompson, Chief, Bentleyville, Pa.: At 9 p.m. daily, our siren is tested and it is used for curfew. No confusion has resulted from blasts sounded on our siren and those in neighboring towns. Our signals have been carried two miles out towards the country.

A. F. Flint, Chief, W. Buxton, Me.: At 5:30, each weekday, our siren is operated for a test call. Blasts blown on our siren and those on sirens in neighboring villages have thus far caused no confusion. The farthest our signals have carried has been five or six miles.

N. B. Macomber, Chief, Conway, N. H.: Our siren is tested daily at 12 o'clock noon. We have never experienced any trouble or confusion from blasts blown on our siren and sirens in nearby towns. Ten miles is the farthest our signals have ever carried.

Martin Lyons, Chief, Clintonville, Wis.: No test calls are made on our sirens each day. Confusion has never resulted from calls on our siren and the one in the neighboring villages. Our siren has been heard some seven miles away.

Kendall Cross, Chief, Solon, Me.: No confusion has resulted from test calls on our siren because we do not make a daily test nor have we have any trouble with our regular fire calls and blasts from sirens in neighboring towns. Our siren has been heard at a distance of one mile.

R. C. Stevens, Chief, Plymouth, Ind.: We make test calls on our siren each day at noon. We have not experienced any interference from blasts blown on sirens in the neighboring towns. Our signals have carried as far as eight miles.

G. W. Thorpe, Chief, Cheshire, Conn.: Our siren is tested

(Continued on page 732)

HERE IS THE PROBLEM FOR THE NEXT ISSUE

What procedure do you follow to preserve and increase the life of your fire hose?

Have you ever been troubled with acid damage to hose?

What have you found to be factors for the decreased service of fire hose?

With the Editor

A Veteran Fire Chief Passes

It was one of the ironies of fate that Daniel E. Johnson, former Chief of the Bridgeport, Conn., Fire Department, should spend the greater part of his life in scenes of excitement; should climb scaling ladders, grope his way through burning buildings, bow his helmet before falling walls, and tear through the streets of his city at hair-raising speed in answer to alarms of fire; that he should live through it all without harm and retire to a peaceful old age, only to be struck down by a motor car while crossing the street in front of the home of an old friend.

"Dan" Johnson lived in an atmosphere of adventure and died in an accident which has become one of the tragic commonplaces of our mechanical civilization. His former comrades and the city of Bridgeport as a whole grieve at his passing and pay a tribute to his work as a fireman. He joined the department back in the days when volunteers still played a large part in the city's fire-fighting. He left the department completely motorized. In this advancement of the technique of fire-fighting methods, Chief Johnson himself played a large part. A man of open mind, he was not wedded to the old methods nor opposed to progress. In personal life he was of upright character, a good citizen, a good parent and a fine friend to all who knew him.

It is a matter of sorrow that greater length of days was not accorded to him, but a man of action who has lived uprightly has no cause for vain regrets when the final call comes. He has lived full and well and can ask but little more.

Reasons for Incendiary Fires

Many and various are the reasons which seem to actuate the incendiary in setting the fire which seems so pleasing to his peculiarly twisted mentality. Of course, the arsonist who fires his own building in order to obtain the insurance—often over-insurance—on the property is in the majority. But his is by no means the only example of incendiarism, and the setting of the fires are not always for the purpose of gain.

There have been recent instances of incendiarism that have brought to light other motives. As an instance of this, troops guarding the oil fields in Texas during the recent trouble in that state, were ordered by the Governor to "shoot at the waist line," if incendiaries were caught in the act of firing oil wells or buildings in the regions affected.

Similarly, in Idaho, recent severe forest fires that swept portions of the state and resulted in the destruction of towns, and the loss of several lives, were known to have been set by individuals, possibly with the intention of providing work for the small army of fire fighters employed in subduing them. It was also freely charged that the incendiaries in these cases were of decidedly "red" tendency.

In one of the middle eastern states recently a "gang" was apprehended that had made a practice of setting fire to structures in certain towns apparently for the excitement of attending the fires and watching the firemen at work, for in this instance there was no pecuniary gain attached to the setting of the blazes.

There have even been instances in which members of Fire Departments themselves have set fire to buildings in their town in order to provide excitement for the fire fighters and give them a chance to distinguish themselves in their calling!

Perhaps the most remarkable motive for incendiarism occurred in a recent church fire, in which the Rector ascribed the act of the firebug to a desire to steal the sacramental wine. He said that attempts had been previously made to pilfer the wine, and that he had no doubt in his mind that the thieves had set fire to the church to accomplish the purpose in the ensuing excitement.

The Menace From the Air

The new peril from the air which the plane has brought to us has again been emphasized by the fatal accident in West New Brighton, S. I., New York City, in which a well-known banker and a woman resident of the house on which the plane fell were killed. The accident, it is said, was caused by low flying in a dense fog, the pilot having missed his way in the murk.

A month or so ago another plane crashed into a residential street in Columbus, Ohio, tearing off a corner of a house in its descent, and narrowly missing setting fire to the structure, as the plane burst into flames when it crashed to the street.

In the more recent accident the woman on whose house the plane fell was sitting in her second floor room when death came upon her so suddenly. She was sprayed with burning gasoline from the plane and was burned before she could be rescued.

These accidents, and several others that have occurred comparatively recently bring to the fore this peril which must be considered, and which is bound to increase rather than diminish as time goes on and the public become more "air minded." In fact, now is the time to adopt ways and means to safeguard those on the ground from accidents such as these.

When the first "horseless carriages" made their appearance the authorities failed to envision the revolution

that was about to take place and make provision for it. The consequences have been far-reaching. Traffic problem after traffic problem has piled up upon each other so fast that the resulting snarl has been almost impossible of remedy.

If the air problem is taken hold of now, while it is still possible of solution, much of the resulting confusion may be avoided and some semblance of order established in the regulation of flying and the control of the air pilots. Low flying in residential sections should especially be prohibited. Most of the accidents which have involved residences have arisen from this practice.

These Men Will Welcome Chiefs to Havana

Mayor Tirso Mesa of Havana, Cuba, and Chief José F. Mayato, of the Havana Fire Department, will welcome the I. A. F. C. visitors at the coming convention in October.

Mayor Mesa is a member of one of Cuba's distinguished families and is a veteran of Cuba's diplomatic corps. He is affiliated with the Cuban National Tourist Commission and has brought to it a distinctive background that is the result of being educated in American and English schools, and his experience as a traveler.

Mr. Mesa knows his native Cuba, is well acquainted with the average American city, and with Paris, London and Buenos Aires.

He was born in Cuba in 1884, the son of Tirso Mesa, Sr., a widely known and distinguished Cuban business man and a prominent figure in the Cuban industrial world. Mayor Mesa

Mayor Tirso Mesa

Chief José F. Mayato

left Cuba at an early age to obtain his primary education in Morristown, N. J. He studied later in Paris, France, and then at Haileybury College, England. Following this, he entered the University of Cambridge, where he studied law.

As a business man he has been active in the production of sugar in Cuba and in the mining field.

He has also been honored publicly. He was an Envoy Extraordinary and Minister Plenipotentiary of Cuba to the Argentine Republic. He also served as delegate of the Cuban Government to the International Agricultural Institute at Rome, Italy.

Other important posts were Director of Pan American Office of the Republic of Cuba; Member of the Organization Commission of the First Pan American Congress of Municipalities and Secretary General of that Congress, and Mayor of the City of Havana.

He is president of the Cuban National Tourist Commission, which he holds ex-officio under the law, as mayor of the city of Havana. He is also a member of all the most exclusive Clubs of Havana.

When the new Central District of Havana was created, its Fire Department was reorganized and Colonel José A. Mayato, formerly Chief of this department, was reappointed. Colonel Mayato and all the officials and members of the Havana Fire Departmnet are exerting every effort to make the International Fire Chiefs Convention a great success. Colonel Mayato is looking forward with pleasure to greeting the officers and members of the Association in Key West Fla., and accompanying them in Havana.

Just Another Job for Busy Firemen

Firemen of Elizabeth, N. J., who have often been called out to rescue cats or pet animals, found out that it is still possible to perform a different kind of service. The department was called to dislodge a colony of bees from a tree in front of an apartment house.

The bees had started housekeeping on a high branch of the tree but the location was not ideal, for often pieces of the honeycomb would fall on the sidewalk and the bees would become very excited. A motorcycle policeman was sent to see what he could do, but he decided that the job was more for the Fire Department.

A truck company and an amateur apiarist who was armed with nets, gloves and a smoke pot, responded. The swarm of bees was soon trapped in a box and returned to a woman who claimed to be the owner of the colony.

Suffolk County Firemen Meet

The forty-third annual tournament of the Suffolk County Volunteer Firemen's Association was held at Southold, L. I. In the morning there was a parade in which a large number of fire companies participated, and in the afternoon the various contests were held.

In the evening a dinner was given in honor of the officials of the county association, the timers, judges and invited guests. It was held at the Arshomonque Inn, under the auspices of the Southold Fire Department. About two hundred persons were present including Rev. Mr. Alton, President of the New York State Firemen's Association, Herbert Nineslinger, President of the Nassau County Firemen's Association and "Smokey Joe" Martin, a retired Assistant Chief of the New York Fire Department, who has been a summer resident of Southold for the past forty-one years.

Box 11 Club Formed in Pittsburgh

The Box 11 Club has been formed in Pittsburgh, Pa., to take in the entire district of Western Pennsylvania, part of West Virginia and a section of Ohio, and the aim of the new organization is to promote fire and police activities in a more extensive manner. It will be similar to the Box 52 Associates of Boston and the Box 4 Associates of Worcester, Mass.

Fifty city officials attended a very successful meeting of the Box 11 Club on September 10 that was held in Wheeling, W. Va. At this meeting there were city officials from Ohio, Pennsylvania and West Virginia. The visitors inspected the new central fire station and later attended the horse races at the West Virginia State Fair. Others visited points of interest about Wheeling. In the evening the club had a barbecue dinner at which there were forty-three persons present.

Arcadia, Wis., to Buy Fire Apparatus—Arcadia, Wis., is to purchase fire apparatus for the protection of nearby rural properties.

THE COVER ILLUSTRATION

Lumber yard and saw mill fires mean considerable work for the Fire Department for there is always danger that flying embers will start new fires in the immediate neighborhood. The cover picture illustrates a fire that started in the Warren Lamb Lumber Company saw mill at Rapid City, S. D., and destroyed ten million feet of finished lumber. Vast clouds of smoke that arose could be seen forty miles away. The intensity and size of the clouds can be judged when compared to the 150-foot smokestack at the right. Only the lack of wind saved the complete destruction of the mill.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Gasoline Vapors and CTC

To the Editor:

You stated some time ago under the heading of "Questions and Answers," that you believed that the use of carbon-tetrachloride in the "bilge" of boats which are gasoline propelled would very likely prevent the common explosions resulting from fuel floating there.

While conceding the well-established facts as to the nullifying effects of CTC upon the ignition functions of gasoline, the thought occurs to me that if the gasoline vapors will not remain put in the bilge region, it is as likely that the other gas will float away.

And while it might seem that if the two gases are mixed, the hazard will be lessened; still it appears to me as very difficult to prove or know that they are mixed at all, or, if mixed, that the mixture is of the proper degree to preclude ignition.

In short, it would look as though the intended or supposed protection in this manner is like the problem entering into the use of glass bulbs filled with this fire-retardant, i. e., one would have to make sure of the cubic contents of the area, and to be sure that sufficient of the retardant gas would be present always to dilute or nullify the volatile gas.

I would greatly appreciate your further treatment of this problem as it seems to me to have great possibilities for prompt public acceptance without proper investigation and a consequent false sense of security.

B. P. W.

Answer: It is likely that gasoline vapors would remain for some time in the bilge of a boat, for they are heavier than air and would normally remain at the lowest point. The same may be said of the vapors from carbon-tetrachloride. Hence, if one of the vapors remains there the other would also. Therefore, you would have protection.

However, only careful tests would determine whether or not carbon-tetrachloride vapor would be present at all times in sufficient quantity to neutralize the explosive tendency of gasoline vapor. One would certainly have to always make sure that sufficient of the retardant gases, as you state, would be present to dilute or nullify the volatile inflammable gas.

Pressure in Charged Line

To the Editor:

In New York City a fire company stretches a line of 2½" hose from a high pressure hydrant as follows: A high pressure gauge is connected to an outlet on the high pressure hydrant, a 3" to 2½" reducer is next connected and then a 2½" line is attached to the reducer. A 1¼" controlling nozzle is used.

The main valve is opened full (21 turns), the independent valve feeding the line is opened half-way (8 turns).

With the nozzle open we have a pressure of 75 lbs. on the gauge.

The nozzle is shut off, causing a back pressure and the man on the hydrant opens the relief valve long enough to relieve the back pressure, and then closes it.

Please answer the following questions:

A. With nozzle and relief valve closed, what is the pressure in the length of hose?

B. Under same conditions but different length of hose, what is the pressure?

N. J. H.

Answer: Where both the relief valve and the nozzle are shut-off, the pressure in the hose line will be exactly the same as that in the hydrant (at the same precise level). The top of the hydrant, being a little higher than the line of hose as laid along the street, the pressure at the outlet will be a little less than the pressure in the hose, but the pressure in the hose will be exactly the same as in the hydrant at a point on the same level as that within the hose at which the pressure is being considered. This applies no matter what the length of the hose, as long as hose line is placed on a level surface.

G. O. No. 17 of the New York Fire Department states the following: "The attention of all officers and members is called to the following:

"Instructions for operating high pressure hydrants.

"It will be understood that the main valve controls the flow of water to the independent valve outlets, the independent valves control the flow of water to the lines on the different outlets. The main valve opens 21 turns to the right. Also, the 4½-inch independent valves open 21 turns to the right, and the 3-inch independent valves open 16 turns to the right.

"While it is understood that the independent valve controls the flow of water to the lines, it must be remembered that the main valve should be opened full at all times.

"There is only one way in which to operate a high pressure hydrant, which should be as follows:

"Assuming that a company has responded to a fire in the high pressure zone, when the engineer arrives at the hydrant he immediately removes the independent valve cap and connects thereto his company gauge nipple, the independent valve cap being closed. The engineer places the hydrant wrench on the main valve stem, with the handle of the wrench in the right hand, and then opens the main valve fully, which is about 21 turns, and waits for orders. As soon as the main valve starts to open the first three turns opens the pilot valve, which is a smaller valve, which permits the pressure of water to pass over the main valve seat, equalizing the pressure on both sides of the main valve seat, filling the hydrant barrel or reservoir, allowing the main valve to be operated easily. On receipt of the order to start the water, the independent valve is opened permitting the water under pressure to flow to the line; the pressure on the line is regulated by the independent valve and nipple gauge. When the order is given to take up, the independent valves are closed first and the main valve last, this for the purpose of equalizing the pressure in the hydrant.

"Hydrant independent outlets (three), 3 inches
"Hydrant independent outlets (one), 4½ inches
"Hydrant barrel, 10½ inches in diameter
"Hydrant seat, 6½ inches in diameter
"Hydrant pilot valve, 2 inches in diameter
"Hydrant drain valve, 1 inch in diameter.

"The hydrant independent valves are of that flat seat type, with a stem and yoke, operating in a vertical direction."

In the above no mention is made of opening independent valves but one-half, or eight turns.

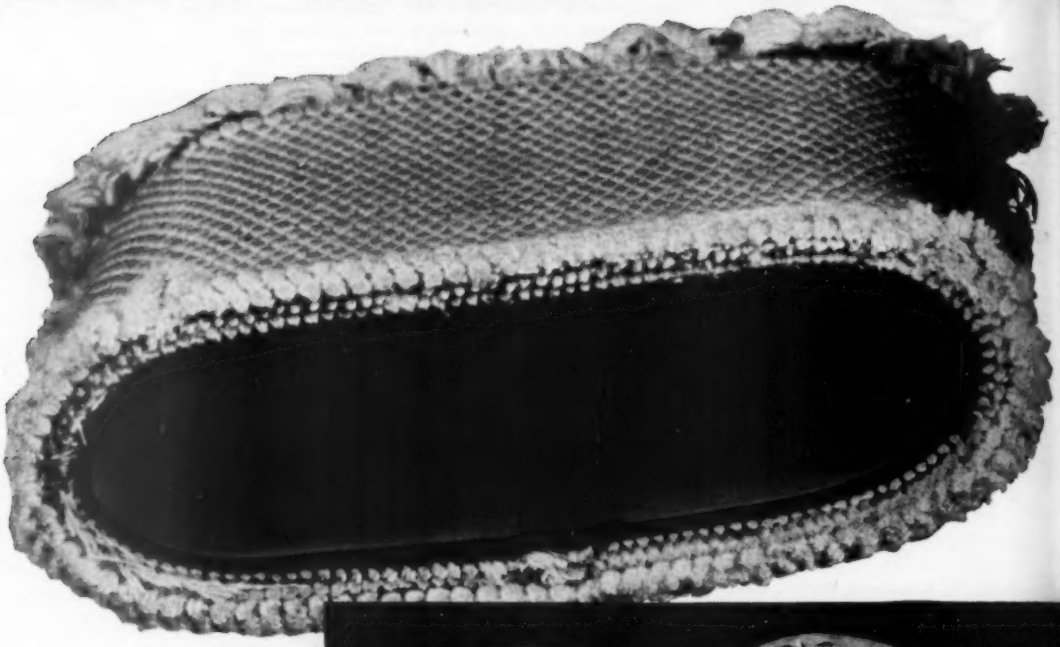
Sway of Tall Buildings

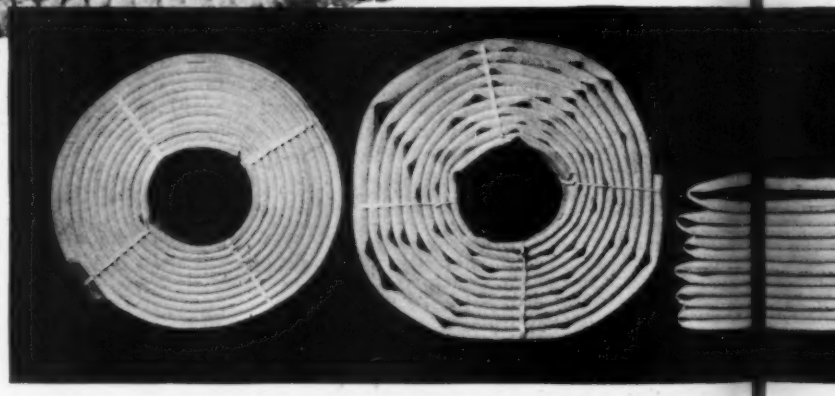
To the Editor:

Although the following question may not be entirely firemanic, I would deem it a favor if you could give me your opinion on it.

Do the high buildings such as abound in the cities of the United States and one of which was so prominently shown in the April 29th issue of FIRE ENGINEERING, have any degree of sway, or movement at the top, and if so, how is such motion worked out?

rolls and racks





HERE, at last, is a flat-cured hose . . . a hose that *racks flat, coils flat* . . . a hose that occupies less space, reduces labor and handling time . . . one that outlasts your present round-cured hose to a remarkable degree.

This hose is *naturally* flat. It's flat when new . . . when the rubber is at its strongest point. Note how in the photographs, Goodrich Flat-cured Hose remains relaxed even when coiled or racked. Relaxed rubber resists aging far better than rubber under tension.

"Life Ovens" Prove Flat Curing Adds Years of Service

The photographs clearly demonstrate how this advanced hose effects its economies in space and handling. What's more, they show the positions in which fire hose spends ninety-five per cent of its life . . . the very positions in which Goodrich Flat-cured Hose outlasts round-cured hose by [illegible] to fifty per cent.

Goodrich "life ovens"—those machines [illegible] look into the future and test the effects of [illegible] natural aging on all products of Goodrich [illegible] —have proved this fact. In these ovens, [illegible] flat-cured hose remained firm, strong and [illegible] life long after round-cured hose had [illegible] dangerously weak.

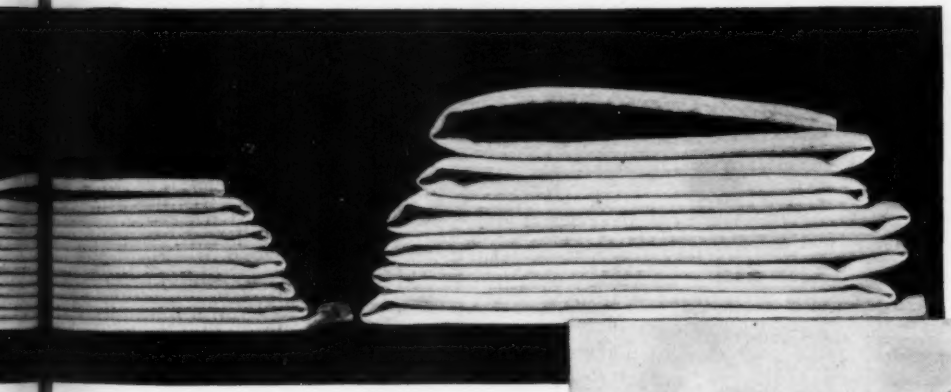
Though this hose is new, in that this is the [illegible] time it has been offered to the public gener[illegible]

FLAT-CURED HOSE *Another* [illegible].

We shall appreciate your men[illegible]

flat-

New, revolutionary construction gives this latest B. F. Goodrich product 20% to 50% longer life . . . far greater ease of handling . . . than ordinary round-cured hose . . . . .



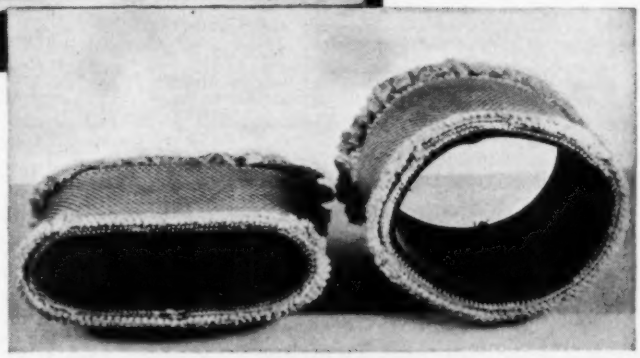
Two photos at extreme left show compact way Goodrich Flat-cured Hose coils without bulging, as compared with round-cured hose. Last two photos demonstrate same comparative compactness when racked. Obvious, isn't it, how flat curing makes hose easier to handle, permits more to be coiled or racked in same amount of space?

been thoroughly proved in actual service. usands of feet have been in use in city fire rtments for as long a time as two years. Many chiefs and firemen have made enthusiastic rts of its easy handling and compact racking ures. Its advantages are proven facts.

• • •

as balloon tires increased the efficiency and service-y of your trucks, so will Goodrich Flat-cured Hose t many economies impossible before.

arn now how this advanced new hose can help you replacement costs, save you considerable time and e. Write to The B. F. Goodrich Rubber Company, ablished 1870), Akron, Ohio.



LEFT: A section of Goodrich Flat-cured Hose. RIGHT: A section of round-cured hose. Both are the same size, carry the same amount of water. When filled with water, under pressure of five pounds or more, the flat-cured type becomes round and offers no more resistance to the flow than ordinary hose.

B. F. Goodrich *Product*

So many people think such a high building has considerable sway, but, personally, I disagree. I will therefore appreciate your advice.

M. J. R.

Answer: Modern steel skyscrapers have no appreciable sway, even when struck by high winds. It is common belief that such buildings sway, due to the pressure of gales, but carefully conducted tests on the Woolworth Building completely refuted the claim. In this particular instance, a plumb bob attached to a steel wire was dropped down the elevator shaft of the Woolworth Building during a wind storm, and careful measurements, showed no appreciable sway as the result of wind pressure on the building.

Solving for Engine Pressure

To the Editor:

Will you please answer the following question? Also, will you kindly give me the value of "K" and factors for changing the 1½ inch line?

An engine is to pump through a layout consisting of 100 feet of 2½-inch hose branching into two 100 foot lines of 1½ inch hose, equipped with a nozzle one-half inch in diameter. The pressure desired on the nozzles is 35 pounds. What will the engine pressure be?

C. F. E.

Answer: The procedure in solving this problem is first to change the 1½" lines to 2½" hose, then combine the two 2½" lines thus found into a single line, adding to the 100 feet of 2½" hose to get the entire length of 2½" hose in the layout.

The factor for changing 1½" hose to 2½" is .074.

The factor for changing two parallel lines of 2½" hose to a single line of 2½" hose is 3.6.

100 — .074 = 1.351 ft.

This is the length of each of the two lead lines in terms of 2½" hose.

Combine these two lines by dividing by the factor 3.6 and we get 1,351 — 3.6 = 375 ft. of 2½" hose, single line.

Then the total length of the single line of 2½" hose is 100 + 375 = 475 ft.

Next combine the two 2½" nozzles into a single nozzle.

This is done by squaring diameter of each of the ½" nozzles; adding the squares, and taking the square root of the sum.

½ x ½ = .25. This is the square of the second nozzle also.

The sum of these two squares is .25 + .25 or .50.

The square root of .50 is .707.

A ⅝" nozzle is .625" in diameter.

A ¾" nozzle is .75" in diameter. The size which comes nearest to the square root of .50 is therefore .75 or a ¾" nozzle.

Then the layout consists of 475 feet of 2½" hose fitted with a ¾" nozzle.

To solve for the nozzle pressure use the formula:

E. P. = N. P. x (1.1. + KL)

= 35 x (1.1 + .0316 x 9.5)

The value of K for ¾" nozzle on 2½" hose is found as follows:

.75 x .75 x .75 x .75 ÷ 10, or .0316.

L, which is the number of 50 foot lengths of 2½" hose in the line, is equal to 475 ÷ 50 foot or 9.5.

E. P. = 35 x (1.1 + .3)

E. P. = 35 x 1.4 = 49 pounds.

Pump Capacities and Drafting

To the Editor:

In a future edition of your valuable magazine would you please answer the following questions?

(1) At a recent fire we had a 750-gallon capacity centrifugal type pump connected to a hydrant of approximately a 60 lb. pressure.

We led 3 lines from this pump and siamesed into a turret nozzle equipped with a 1¾" tip.

The length of each line was 1,100' and the pressure at the tip was 120 lb., which, by figures, shows the discharge to be a little in excess of 1,000 g.p.m.

How do you account for a centrifugal type pump rated at 750 g.p.m. delivering over 250 g.p.m. more than its rated capacity?

(2) I have been told that a positive type pump i.e. a rotary gear, or piston type pump, could not have done as the centrifugal type. Why?

(3) Books say that fire engines draft their maximum at sea level where the atmospheric pressure is greatest; still a few years ago in answer to my question "does the atmospheric pressure become more or less below sea level," your answer was the former.

Would the drafting possibilities of a fire pump differ any if it were drafting at say Yuma, Arizona, below sea level or San Francisco, California, at sea level.

D. A. H.

Answer: The rated capacity of any fire engine is the capacity which it should deliver at the stated pressure if it is in good working condition. Practically all pumpers as now built are capable of delivering more water at the stated pressure than is required by the contract. This excess performance is due to excess power at the motor.

In the case of the centrifugal pump which you have tested, the hydrant pressure will help the engine materially. In fact, with 60 lb. pressure delivered at the hydrant, the engine will receive assistance almost to the extent of 60 lb. at the discharge pressure which it is supposed to deliver. Hence there should be plenty of excess power in the motor to raise the discharge to 250 gallons per minute more than its rated capacity.

Answer 2. A piston or rotary pump can also give excess capacity when helped by hydrant pressure. As to the relative excesses the three different types of pumps, this is a question depending largely upon the design.

Answer 3. While text books state that fire engines will give their maximum lifts by suction at sea level, such statements do not take in the possibility of engines operating at points below sea level. If the pumps operate at points below sea level, they will be capable of drafting water at a greater distance than when operated at sea level or above. The atmospheric pressure increases as the center of the earth is approached. The farther below sea level the pump is operated, the greater the height it can raise water, due to the increase in atmospheric pressure. Yes, the drafting possibilities of a pump at Yuma, Arizona, which is, as you state, below sea level, and at San Francisco, California, would be different due to the fact that the atmospheric pressure at Yuma would normally be greater than at San Francisco. Hence you should be able to draft water a greater height at Yuma than at San Francisco.

Life of Hose; Parked Car Hazard

To the Editor:

Will appreciate an answer to the following question:

(1) How long do you consider 2½" rubber lined fire hose should be used before replacing with new, disregarding pressure test which is made annually?

(2) Do you consider it a fire hazard to park automobiles within 20 feet or less to frame buildings that are not used as garages?

M. F.

Answer: While many types of cheap fire hose will barely last beyond their period of guarantee, better grades of hose, made by the old established hose manufacturers have served as much as 25 years before being junked.

The life of fire hose depends to a considerable extent upon the service which it is called upon to give. In ordinary city use high grade hose should last five to ten years, with plenty of life still left in it. Cheaper grades of hose should certainly be discarded after five years service, if it lasts that long.

With reference to the fire hazard to park automobiles placed within 20 feet or less of frame buildings, not used as garages, a fire hazard surely exists. But the open area in which the cars are parked would simplify the protection of these cars in the event of fire in the frame buildings. Unless there is a very much restricted means of egress for the cars, and unless they are present in large numbers, the situation would not be considered worthy of special attention.

PITTSBURGH, PA., FIGHTS FIRE IN CONGESTED TENEMENT AREA

Rapid Headway Made by Fire in Building Occupied by Wholesale Garment Firms—Salvage Covers Help Reduce Water Damage

By WILLIAM E. PATTERSON

FOUR alarms were sounded in quick succession for a fire which broke out early Wednesday evening, September 9 in the heart of the wholesale garment section of Pittsburgh, Pa., and threatened to destroy the entire building before the flames were brought under control. The building was on Fifth Avenue between Hooper and Magee Streets in a thickly populated tenement section.

When the first fire companies arrived, the fire, fed by large quantities of inflammable materials used in the manufacture of clothing had already made great headway. Flames and heavy clouds of black smoke rolling out of the windows on the top floor and out through the roof were visible from many parts of the city.

The first alarm at 5:57 p.m., (eastern standard time) brought Engine Companies No. 4, 3 and 5, Squad Company No. 1 and Truck Companies No. 3 and 5 in command of Battalion Chief Henry F. Schwarz of the Second Battalion.

The second alarm at 6:02 p.m. brought Engine Companies No. 11, 1 and 12 and Deputy Chief Louis J. Conley and Chief of Department, Richard L. Smith.

The third alarm at 6:13 p.m., brought Engine Companies No. 32, 18 and 19 and Truck Company No. 1 in command of Battalion Chief Saul Klein of the Fifth Battalion.

The fourth alarm at 6:18 p.m., brought Engine Companies No. 24, 33 and 41 and Truck Company No. 12 in command of Battalion Chief John B. Callaghan of the Third Battalion, while the special telephone call at 6:20 p.m., brought Water Tower Company No. 1 which was connected up in front of the building on Fifth Avenue and made ready for service if needed.

Fortunately by the time the Engine and Truck Companies called on the four alarms got into service, the major part of the fire on the top floor was killed and the service of the water tower was not required.

Between the sounding of the first and second alarms, when the smoke and flames rolled out through the roof from the burning building, eight boxes in the vicinity were pulled by pedestrians.

Fourteen high pressure pumper streams and six hydrant streams were poured into the building in addition to a powerful 1¾-inch stream from the 32-foot water tower of the combination deluge hose, turret and water tower wagon of Engine Company No. 1, which was placed in service directly in front of the building on Fifth Avenue. Pressure to the water tower stream was supplied through six lines of hose by three 1,000-gallon pumpers, while a number of small ½-inch lead line streams were used in extinguishing the smoldering ruins after the large lines were shut down.

Firemen dragged lines of hose up aerial ladders, up the rear fire escapes and up the stairs in the inside of the building where they attacked the fire at close range. For a time the fire threatened to sweep down through the whole building and drive the fire fighters to the street.

Emergency Squad Comany No. 1, one of the most important and efficient units of the Fire Department, performing the same service as that of the Underwriters Salvage Corps in other cities, did excellent work in preventing heavy damage on the lower floors of the building. The squad spread 98 salvage covers over merchandise. It prevented an additional loss of approximately $25,000 to the contents of the building which otherwise would have resulted from the tons of water that poured through the building from the upper floor.

The building damaged fronted 75 feet on Fifth Avenue, and extended through the block to Watson Street a distance of 110-feet. It was a six-story brick and stone structure of modern slow burning construction, divided practically into three separate buildings of equal width by heavy brick partition walls from the first to the fourth floor, while the fifth and sixth floors were open floors the entire width of the building.

The building was equipped with four elevators, one located in the front of the building near the main entrance and staircase, extending to the sixth floor. The other three, located in each of the three sections of the building, only extended to the third floor in each section. A modern iron fire escape extended from the first floor to the roof in the rear of the building.

In addition to the Patent Garment and Manufacturing Company, which occupied the sixth floor as a factory, where the fire originated, the first, second and third floors were occupied by the Imperial Hosiery Company, Max Horn & Co., wholesale dealers in women's wearing apparel and

Pittsburgh Fire That Caused a 4-Alarm Response

Allon Brothers & Co., wholesale dealers in women's wearing apparel and notions, while the fourth and fifth floors were vacant.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Week Ending September 18	Loss in Thousands of Dollars
ATLANTA, GA.—Bldg. occupied by International Vegetable Oil Co.	125
SHELBYVILLE, IND.—Hanger and four planes at Sullivan Airport	25
E. GRAND RAPIDS, MICH.—Bldgs. at Ramona Amusement Park	25
PLYMOUTH, CAL.—Several business establishments destroyed	45
BUCKSPORT, ME.—Equipment of Maine Coal & Dock Co.	250
NEWCASTLE, ALTA.—Ukrainian Labor and Farmer Temple destroyed.	25
KITCHENER, ONT.—Restaurant of Gettas Gettas, W. King St.	25
LAMBERT, MONT.—Huffer bldg. adj. business property	45
OHIOWA, NEB.—Three business establishments	25
QUEBEC, QUE.—Woodyards and shops of C. Emile Morisette	65
ESTHERVILLE, IOWA—Roundhouse of Minneapolis & St. Louis R. R.	30
DERRY, N. H.—Home of Mrs. E. H. Williams, Beaver Lake	30
MANHEIM, PA.—Lumber sheds, 2 industrial plants	60
COZAD, NEB.—Alfalfa mill owned by Allied Mills of Chicago	40
CALUMET CITY, ILL.—D. G. Chemical Company plant	100
BINGHAMTON, N. Y.—Bldg. of C. B. Yager & Co. damaged	25
STOCKTON, CAL.—Store of W. S. Kendall Co.	80
CHARLOTTESVILLE, VA.—Davis Bldg. East Main St.	25
SANDPOINT, IDAHO—Several hotels destroyed	30
ANGEL CAMP, CAL.—Entire block of property destroyed	80
BETHANY, MO.—Grand Stand and bldg. at Mo. State Fair Grounds	25
DASSEL, MINN.—Eckman Furniture Store, two adj. structures	80
MISSOULA, MONT.—Missoula High School bldg. destroyed	400
MONESSEN, PA.—Kiefer's Garage damaged	45
BEND, OREG.—Central Oregon Motor Co. garage	35
ANTIOCH, ILL.—Antioch Palace, a roadhouse 1 mi. south	70
LA CROSSE, WIS.—Five warehouses of Heilemann Brewery Co.	45
CHAPLEAU, ONT.—Sawmill at Nicholson's siding	100
Week Ending September 25	
PIEDMONT, ALA.—Sawmill of W. H. & C. T. Wallace Co.	25
SPRINGFIELD, ILL.—Wetterer dry goods store destroyed	75
KETTLEMAN HILLS, CAL.—Absorption plant of Texas Oil Co.	400
DETROIT, MICH.—Business bldg. at Woodward & Grand River Aves.	80
GUERRIER, WASH.—Gurrier Lumber Co. sawmill destroyed	40
DETROIT, MICH.—Factory of E. H. Rowley Co. damaged	80
SCOTTVILLE, MICH.—Bldgs. on Johannes Peterson farm	25
GREGORY, S. D.—Gregory high school bldg. destroyed	80
PHILADELPHIA, PA.—Bldg. and contents of South 11th Street Garage	165

LONG BRANCH, N. J.—Three garage of Amby & Lustbaum..... 65
FALL RIVER, MASS.—Six bldgs. on South Main St. destroyed..... 25
LA GRANGE, GA.—Whse. of Valley Waste Mill destroyed..... 45
COPALIS CROSSING, WASH.—Mill of Oriental Lumber Co..... 65
CHESTER, PA.—Assembly plant of Ford Motor Co. damaged..... 400
LEMINGTON, VT.—Bluebird dance pavilion destroyed..... 25
ALCOLU, S. C.—Plant of Alderman Lumber Co. damaged..... 160
NORFOLK, VA.—Plant of Hampton Roads Shipping Co., destroyed 400
SPARROWBUSH, N. Y.—Crowhurst Leather Co. plant destroyed.... 160
CATSKILL, N. Y.—Smith House, owned by J. Kleinberg..... 35
MOLINE, ILL.—Four vacant bldgs. of Sechler Implement Co..... 80
CANTON, MISS.—Levy's dept. store destroyed..... 35
CHIPLEY, FLA.—Plant of Hughes-Law sawmill damaged..... 80
WENTZVILLE, MO.—Warehouses and business property..... 45

PACIFIC COAST FIRE CHIEFS HOLD CONVENTION IN SAN DIEGO

Chief William J. Mohr of Santa Monica Elected President—Ladies and Delegates Well Entertained by San Diego Committee

EVEN though it was arranged at comparatively short notice, the annual convention of the Pacific Coast Association of Fire Chiefs held in San Diego, Cal., September 4-7, was one of the best attended conventions that the association has had in many years.

Chief William J. Mohr,
Santa Monica, President
P. C. F. C. A.

The convention opened in the U. S. Grant Hotel with a concert by the Pasadena Fire Department Orchestra. Mayor Walter Austin welcomed the delegates to the thirty-eighth annual gathering. Chief Charles J. Brennan of the San Francisco Fire Department responded. During the first session there were addresses by Samuel M. Shortridge, U. S. Senator of California, and a talk by Chief Louis Almgren of San Diego, Cal. Chief Healy of Denver, Col., also spoke.

Many exhibits were arranged in the lobby of the hotel.

In the evening there was a round table session and then a get-together party at the hotel.

The Saturday program had an early start with an exhibition of drills by the Los Angeles Fire Department Drill Crew at the drill tower of the San Diego Fire Department.

Chief E. F. Coop of Pasadena spoke on "Effect of Humidity on Fire Conditions." After hearing this paper, the visitors assembled in front of the hotel for their group photograph and then journeyed to Agua Caliente race track across the U. S. border. The evening was also spent in Mexico.

Sunday morning, memorial services were held at the Cabrillo Theatre.

The afternoon was devoted to water sports at Coronado and Tent City while in the evening there was a first aid contest. Pasadena won first place, San Diego, second and Los Angeles, third. The contest was staged under the auspices of the Mine Safety Appliance Company. A number of the visitors remained to see a baseball game at Navy Field Ball Park.

Another early program was arranged for Monday morning. Practical drills were demonstrated at the drill tower by a crew from the Los Angeles Fire Department. There was a paper on "The Value of Inspections," by Herbert Raines of the National Board of Fire Underwriters; "The Value of Redwood Crib Construction," by R. W. Smith, and a short talk by Ivan Smith, Chief of the Coronado Police Department.

Lt. Gov. Frank Merriam addressed the delegates at the dinner-dance held in the U. S. Grant Hotel. He stressed the importance of the state's unemployment problem.

Chief Louis Almgren was presented with an order for a chair, a lamp and a table, and Jay W. Stevens, State Fire Marshal, was presented with a handsome pin.

On the closing day of the convention there were underwater life saving tests by the Pasadena Fire Department and other water exhibitions at the San Diego Athletic Club Pool.

W. P. Cooper, Chief of the Richmond, Cal., Fire Department spoke on "Standardizing 2½-inch Fire Hose Threads.

Chief William J. Mohr of Santa Monica was elected President; Ed. Grenfeld, Portland, Ore., First Vice-President; W. P. Cooper, Richmond, Cal., Second Vice-President; Jay W. Stevens, San Francisco, Secretary, and Joe Wood, Renton, Wash., Treasurer.

Chief Ralph J. Scott of Los Angeles, Past President of the I. A. F. C., will represent the Pacific Coast Chiefs at the I. A. F. C., convention to be held in Havana.

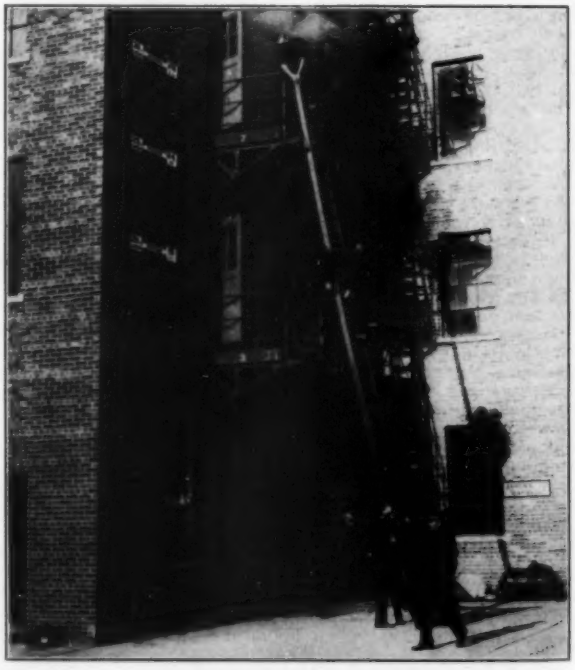
FIRES IN AIRPLANE HANGARS TEST METHODS OF CONTROL

Report of a Fact-Finding Committee of U. S. Department of Commerce—Description of the Experiments—List of the Findings

A WOODEN hangar has successfully weathered a series of seven fire tests made by a special Fact-Finding Committee organized by the Aeronautics Branch of the U. S. Department of Commerce, to determine the effectiveness of automatic application of water in controlling airplane hangar fires. The report of the committee covers the circumstances and gives the results and conclusions of the tests which were conducted in Washington with obsolete airplanes in a regulation-size lumber hangar.

While these tests were not considered exhaustive they covered a wide range of likely fire origins, a variety of risks respecting plane storage and inflammable material present. Four types of sprinkler installations were used for applying water, viz: dry-pipe; wet-pipe; open overhead sprinklers, with heat-actuated water-supply valve releasing mechanisms; and open overhead sprinklers of the same type and floor spray nozzles with heat-actuated water-supply valve releasing mechanisms. Every effort was made to set up conditions that would make up in intensity for any limitations in variety in character of fire origin or hazard increasing circumstances.

The committee's conclusions are carefully worded to avoid assuming more than could be reasonably deduced from the specific tests. Graphic illustrations of the report, on the other hand, showing several instances in which the interior of the hangar was filled with a bank of intense flame, give



The Detroit Firemen Go to School

Even the firemen have their school which they must attend, and although stress is not placed on the three famous R's, the course consists of both book knowledge and practical training. The photograph shows some of the firemen receiving training at the Detroit Fire School. The men are engaged in a life-saving evolution, and if the task is not accomplished in a set time, the students are penalized.

vivid testimony of the effectiveness of the sprinklers in these specific instances in bringing the fire under control without material damage to the hangar.

The findings of the Committee, eleven in number, read:

1. Slow-burning fires in well ventilated buildings with high ceilings may continue without opening automatic sprinklers.
2. Extremely fast fires in single planes may burn themselves out without opening automatic sprinklers.
3. Fires in readily ignitable and highly combustible materials spread over wide areas, such as gasoline on the floor or highly inflammable wing surfaces, may proceed at first faster than the opening of sprinklers and thus outrun for a time the application of water to the fire.
4. Water form overhead sprinklers may on some occasions keep the top surfaces of an airplane wetted, thus preserving a shelter under which a fire may spread to various parts of the machine. Under this condition, supplemental equipment, such as hand extinguishers or hose streams, could be brought into use effectively. The use of floor sprinklers might reduce the spread of fire. None of these should be permitted to deprive overhead sprinklers of the water necessary for their effective operation.
5. Each sprinkler installation should be equipped with suitable alarm devices in order that additional fire-fighting appliances may be on hand as promptly as possible.
6. Fires involving large quantities of gasoline or similar fuel may not be entirely quenched by sprinklers alone, but would be kept, usually, in a subdued condition, making possible close approach thereto with other means for their subjucation. Suitable additional extinguishing devices should be provided to supplement sprinkler systems for quenching these or similarly persistent fires.
7. Fires in which several airplanes are ignited simultaneously will usually result in the burning of surface fabrics and the ruin or destruction of some of the structural members of all involved, and may damage airplanes closely adjacent to them.
8. Fire igniting a single airplane, even under highly favorable conditions for quick spread throughout the machine, is usually controlled by sprinklers so as to cause little or no damage to other airplanes stored close to the one first ignited.
9. The automatic application of water by sprinklers will generally give good protection to airplane hangars and contents except such of the contents as are involved in the outbreak of the fire.
10. The advantages of a heat-actuated system of open sprinklers, such as the one tested are apparent (a) in small spreading fires (b) in buildings having high ceilings or conditions of ventilation causing horizontal drafts, or (c) in those fires where the time required for the opening of automatic sprinklers permits the fire to burn out or to get beyond the range of discharging sprinklers.
11. These tests have indicated that sprinkler systems installed and maintained in accordance with recognized good practice for the protection of this class of property, and having an adequate water supply, can control most of the fires likely to occur in airplane hangars; therefore serious thought, including thorough economic consideration should be given to the subject of such installations wherever commercial air transport or other aerial activities are carried on.

The tests were naturally of a highly spectacular character. In one instance more than three hundred gallons of gasoline was at risk including gasoline spilled on the floor and wings of four planes and in fuel tanks. In some of the tests were saturated with gasoline, gasoline was spilled on the floors or allowed to leak from tanks, gasoline and oil saturated rags were used to convey flames, and a highly inflammable treating "dope" was spread over the wings. In one instance flames leaped through the front door of the hangar to a height of approximately 50 feet. Several times the hangar was filled with what seemed a solid bank of flame and on one occasion flames licked at the roof and a roof truss member for a considerable period of time.

The hangar was of wood construction approximately 80 feet by 66 feet by 28 feet high. It was donated by the National Committee on Wood Utilization of the Department of Commerce. The National Automatic Sprinkler Association furnished both overhead and ground sprinkler installations and an elevated water supply tank. The Bureau of Standards furnished technicians and observers for conduct of the tests and scientific instruments for recording data during the course of the fires.

Harry H. Blee, Director of Aeronautic Development, Department of Commerce served as Chairman of the Fact-Finding Committee. Included in its membership were representatives of the Army and Navy air services, the U. S. Bureau of Standards, the National Advisory Committee for Aeronautics, the Aeronautical Chamber of Commerce, the National Automatic Sprinkler Association, the National Board of Fire Underwriters, and the Underwriters Laboratories.

Firemen of Bellingham to Have Pay Reduced—The Council of Bellingham, Wash., voted to reduce the salaries of members of the Fire Department and other city employees in order to meet a deficit of $25,734 in the estimated receipts of the general fund. The Council voted for a reduction in wages rather than decrease the personnel.

New York City to Launch Fireboat

Miss Anne Dorman, daughter of Fire Commissioner Dorman of New York City, will christen the new fireboat that is to be launched for the city October 6 at the Todd Shipyards Corporation. The boat will be named the John J. Harvey in memory of the fireboat pilot who was killed while fighting a fire in the cargo of the North German Lloyd liner Muenchen which sank at her moorings, February 11, 1930.

The new boat is 130 feet long, has a beam of 28 feet and will draw 8½ feet of water. Four intakes will serve the boat in taking on water and thirty-two nozzles will discharge it at the rate of 16,000 gallons per minute at 150-pound pressure. One deck gun will have a capacity of 3,000 gallons per minute and another a capacity of 2,000 gallons, while two manifolds will provide twenty-four outlets.

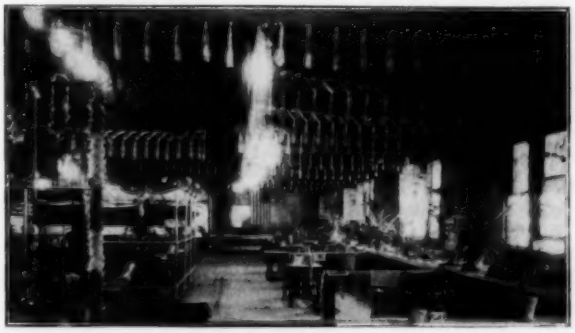
The Harvey has been fitted with five Sterling Viking gasoline engines of 550 horsepower which can develop 2,750 horsepower and a speed of eighteen miles an hour. When the boat is in action four of the engines will be switched to the pumps and the fifth will operate on an electric motor connected with the motors to offset the force of the water in discharge and to hold the boat in position.

The boat was designed by Henry J. Gielow, Inc., of 25 West Forty-third Street, and is classified by the American Bureau of Shipping.

Illinois Firemen Meet in Murphysboro

Chief Albert Herring of Murphysboro, Ill., was host to the firemen of the state when the Illinois Firemen's Association held its forty-fourth annual convention there September 8-10. It marked the fourth time that the city entertained the state firemen.

The registration showed an attendance of 348 firemen. Among the honored guests present were Chief John M. Evans, of New Orleans, La., Hon. John C. Schillein of Wooster, Ohio, Chief Ryan of Chicago and Harry K. Rogers, the Fire Clown.



Exhibits at Convention of Illinois Firemen's Association Held in Murphysboro, Ill.

Memorial services were held at the First M. E. Church and a smoker at the Elks' Club. John G. Gamber, former state fire marshal, spoke at the annual banquet held at the Centenary M. E. Church.

Many entertainment features were arranged for the ladies. Mrs. Herring and the members of the Ladies Committee had provided a varied program.

In connection with the convention, there was an interesting display of exhibits at no cost to the manufacturers who displayed their merchandise.

Canadian Plant to Make Hydrants

The Ludlow Valve Manufacturing Company, of Troy, N. Y., will manufacture in Canada as the Canadian Ludlow Valve Manufacturing Company, Limited. Factories are located at Three Rivers, Que., St. Thomas, Ont., and Fort William, Ont. The Canadian office is at 930 Wellington Street, Montreal, Que.

The patterns that will be used are from the original models and only the most experienced men are to work at these plants, under the supervision of Ludlow trained engineers.

Chief Davis of Danville Has New Car—An Oldsmobile coupe has been purchased for the use of Chief Frank Davis of Danville, Ill.

The Volunteer Fire Department

(*Continued from page 718*)

grease on the surface and will prevent the fats from working their way towards the rubber.

The smaller department, because of the infrequent fire alarm response, is interested in the care of the hose while it is not in service.

Most hose ages out rather than wears out in service, because of the material used in manufacturing the hose.

The cotton in the jacket deteriorates due to mildew or the autogeneration of mild sulphuric acid. If hose is stored while

How Hose Is Frequently Damaged By Oils

The length of hose illustrated is resting in a pool of olive oil. The building, housing a wholesale grocery warehouse, had collapsed and a large stock of canned oil was crushed so that the containers leaked.

the jacket is wet and it remains for some time in this condition, mildew will soon form unless the hose is ventilated. This foreign coating is a fungus growth, and it saps the strength of the hose. In reality, the hose has entered a stage of deterioration.

When wet hose remains in that condition for some time, the flowers of sulphur which is used in the rubber and which forms on the outside of the jacket after a while, combines with the water and forms a weak sulphuric or sulphorous acid. Two actions take place—mildew and acid, and both tend to destroy the jacket. However, this may be checked by the proper drying of hose.

Rubber Should Be Moistened

On the other hand, rubber will harden and crack if kept thoroughly dry. The rubber continues in its state of natural vulcanization and natural hardening, depending upon the immediate temperature of the air. If hose is permitted to remain in any set position for any length of time, it will harden in that position, and the rubber will crack when the hose is straightened or folded.

To some extent, this natural vulcanization may be checked by occasionally flushing the hose with fresh water, and after the hose has been so treated, to dry the hose as a preventative for mildew.

"Sets" will form in hose that is stored folded in the fire station. The only way to avoid these "sets" is to plan not to keep hose too long in one position. Various schemes have been tried to avoid this trouble. An ideal arrangement is to have the position of the hose changed once a month on the apparatus and also to change, once a month, the hose that has been placed in storage. Every second month the hose should be flushed, thoroughly dried, and its position changed so that the bends will fall at different points.

In some departments, after the hose has been thoroughly dried, it is rolled in coils and then set in racks erected to accomodate the coils in an upright position. This prevents any of the bends that would form if the hose was stored flat.

Hose Must Be Properly Dried

It is very essential that the hose be washed, drained and dried immediately after it has been used, as well as after the periodic washing. Not every station has a hose drying tower, but that is no reason why the hose cannot be dried.

A cheap hose-drying rack, such as the one illustrated can be constructed by a local carpenter at little cost. It can be moved outside of the station in the sun, when it is necessary to dry hose.

The dryer is from four to five feet wide and twenty-four feet long. It can also be used by stations in the larger cities where no drying equipment has been provided.

Where there is a hose tower, the drying of hose is simplified. The hose is hung with the male coupling at the top. This leaves the female coupling, which has a swivel arrangement, untouched and uninjured. Also the men can take the hose in the same way each time and this lightens the task. The hose can be coupled together as fast as the firemen remove the lengths from the hose drying tower, and then placed on the apparatus.

Handling Frozen Hose

In the winter time, care must be exercised in handling frozen hose.

During cold weather, after the fire is out and the hose is to be removed from its position on the street, the jacket is in a saturated and frozen condition. If the hose is treated roughly, the fibres that run lengthwise on the hose are apt to be broken and the hose seriously damaged.

It is difficult to remove hose from the street where it has been frozen into position. But it can be done properly. No attempt should be made to pull the hose out of the ice, but rather it should be chopped clear by using an axe underneath. Any ice that clings to the hose should be permitted to remain and the hose should be placed on the apparatus, in any manner whatsoever that will require the least bending or forcing, and the hose taken to the fire house to be thawed out. After the hose has been thawed, it should be washed, cleaned, and then placed in position for drying.

Care Must Be Exercised in Picking Up This Hose

If the hose is treated roughly, the fibres of the jacket are apt to be broken and the hose will be seriously damaged. Frozen hose should be thawed before it is folded.

A good rule to follow is to handle frozen hose as little as possible while the hose is in a frozen state. Get it into a station and let the hose thaw itself out.

If the instructions contained in this chapter are carefully followed out, it will not be necessary to order fire hose as frequently for replacements, and many of the disputes with hose manufacturers concerning damaged or defective sections, will be eliminated.

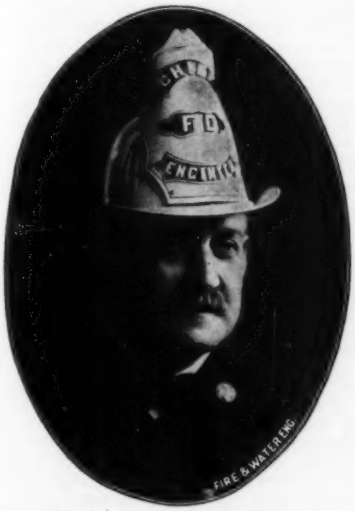
Winfield, Kan., Pumper Not Sent on Tour

In an account of the new "Metropolitan V-12" type pump and hose cars of the American-La France and Foamite Corporation, appearing in the September 2 issue of FIRE ENGINEERING, it was stated that a pumper to be delivered to the Fire Department of Winfield, Kan., had been taken on an extensive tour through the middle West, en route to its destination. This was an error, as the Winfield car was delivered direct. The apparatus which went on tour, and which aroused much interest among Chiefs and other Fire Department officials who witnessed its efficient performance, was strictly a demonstrator. There were 24 orders received by the corporation for this type of car during the month of July.

Underwriters Ask Mason City to Erect Station—According to a report issued by the National Board of Fire Underwriters, a recommendation was made that Mason City, Ia., add a third engine company in the north end, install a fire alarm system, and increase the number of men in the Fire Department. Chief Shire and P. F. Hopkins, City Manager, were in general accord with the major part of the report.

Reading Honors Chief Niethammer

For the last time, Chief John G. Niethammer, of Reading, Pa., reviewed the various units of the Fire Department as they marched in a parade on Labor Day, September 7, that was especially arranged to honor the Chief who will retire after sixteen years as head of the department and a member for fifty years.



Chief John G. Neithammer

A souvenir program was issued under the heading of "Niethammer Day." Many of the residents who watched the parade in which 35,000 persons participated, wore badges which had the likeness of the chief.

Chief Ross Davis of Philadelphia was in the reviewing stand with other guests.

Following the parade a Philadelphia contingent presented Chief Niethammer with an upholstered chair, at a reception held in the Rainbow Engine House.

In the evening the Chief entertained a number of his friends at his home. The guests included Chief Frank Deen, Lancaster; Chief George A. Smith, Pottsville; Chief Ellis L. Wagner, York; State Fire Marshal J. William Morgan; Chief Oliver J. Hatfield, Pottstown, and others.

Ex-Chief Johnson, Bridgeport, Killed

(*Continued from page* 716)

tion held in Bridgeport in 1922. He was elected President of the New England association at the Pittsfield, Mass., convention in 1925. He was also a member of the International Association of Fire Chiefs; Vice-President of the Fire Chiefs' Club of Connecticut and a member of the Connecticut State Firemens' Association, a life member of the Bridgeport B. P. O. Elks, and the Fraternal Order of Eagles. He is survived by his widow, four daughters and two sons.

The funeral was held from his late home, 75 Terry Place, Bridgeport, on Monday, September 19, with a solemn requiem mass celebrated at St. Patrick's Church. Interment was in the family plot at St. Michael's Cemetery. Over one hundred firemen from the "off" platoon headed the funeral procession followed by members of the Pacific Volunteer Fire Company, a local organization of which Ex-Chief Johnson was a member.

Among Fire Chiefs and fire officials from other cities in Connecticut and New England to attend the funeral were: Henry R. Taft, Norwich; Henry H. Heitman, Waterbury; William H. Noble, New Britain; Allen D. Judson, Stratford; Lawrence B. Reif, New Haven; John F. Moran, Hartford; George Milne, Rockville; George Sherwood, Southport; Lyman Lamphere, Naugatuck; J. S. Paschal, New Haven; James T. Delaney, Meriden; John H. Hayes, Bristol; B. J. Fitzsimmons, Bristol; E. S. Pickett, Fairfield; Francis R. Dunnigan, Westport; S. M. Potter, Sound Beach; M. Lanter, Middletown; Peter Beckerle, Danbury; George W. Bogardus, Norwalk; Victor H. Veit, Stamford; David W. Harford, South Norwalk; Michael T. Souney, New Britain; Frank Moore, Waterbury; A. C. Melendy, Nashua, N. H.; Harry Belknap, Boston, Mass.; Justin McCarthy, Boston, Mass.

Armstrong, Ia., Wants New Apparatus—A petition has been filed with the city officials of Armstrong, Ia., for the purchase of new fire apparatus.

Many Places Ban Fireworks—Seventeen Iowa municipalities have passed ordinances banning the sale or firing of fireworks, and six more municipalities are drafting such ordinances.

Drive for Fire Prevention Members

The Fire Prevention Bureau of Berkeley, Cal., has launched a drive for ten thousand new members during Fire Prevention Week. New members to the Fire Department bureau are given membership and pledge cards bearing the seal of the city and signed by City Manager Thompson and Chief George Haggerty. On the reverse of the card is printed:

"I hereby pledge that I will do everything within my power at all times to prevent fires from starting.

"By disposing of all waste paper, trash and other inflammable materials in and about my home or by keeping them in proper receptacles.

"By putting out all burning materials, cigarettes and cigars, that I may see and urging others to do likewise.

"By keeping all highly inflammable and volatile liquids in proper receptacles and outside of my home.

"By not starting any grass or brush fires.

"By not turning in false fire alarms.

"By carrying out all the requests, requirements and recommendations issued by the Bureau of Fire Prevention for the purpose of reducing the fire loss, thereby making our city a safer place in which to live."

"Because of the active participation of the Fire Department in fire prevention work, Chief Haggerty states the fire loss of Berkeley during the past fiscal year established a new low record. With 10,000 new members to the bureau it is hoped that a still lower fire loss record may be established during the current fiscal year.

Portland, Me., to Launch New Boat

According to present plans, the new fireboat being constructed for Portland, Me., at East Boothbay will be launched October 24 in the presence of city and state officials, and a large delegation of New England Fire Chiefs. The boat will be christened "The City of Portland."

The boat, when completed will cost about $125,000. The construction cost of the boat will be $108,000, the architect's fees $6,000, bond issue expenses $354, and the balance will be spent on equipment for the boat.

It is expected that within one week after the boat has been launched, "The City of Portland" will be in regular service.

Fire Started to Destroy Crickets

Firemen of Utica, N. Y., were recently called to start fires when a horde of English crickets descended on the western part of the city. Indian fire pumps were used to spray gasoline and kerosine on the dumping grounds and hay fields, and the sprayed land was then burned over.

Health authorities and fumigation experts could not cope with the problem and Chief Joseph N. Sullivan was called. He finally decided to start the fires to destroy the breeding places of insects which entered homes and ate furnishings, clothing and food.

State Troopers in Texas Are Ordered to Shoot Firebugs

As a direct result of martial law that has followed the arbitrary closing down of the oil fields of eastern Texas, a great deal of incendiarism has resulted. The state troopers have been instructed "to shoot to kill." Above is the result of what is believed to be the work of some firebugs.

NEW YORK CITY ADOPTS MODEL MOTION PICTURE FILM LAW

New Ordinance Result of Conference by Best Minds in Fire Department, Underwriters and the Motion Picture Industry—Text of Law

By WM. JEROME DALY

(Continued from last issue)

FOLLOWING is the fourth installment reproducing the text of the New York City ordinance intended to "put teeth" into the laws relative to inflammable motion picture film. The new law represents the composite thought of the "best minds" in the fire fighting service, the insurance underwriters, the fire prevention field and the motion picture representatives themselves. It is the culmination of eighteen months of sincere, earnest, painstaking and technical efforts to get the safest regulations possible for both the industry and the public.

The title of the new law is as follows:

AN ORDINANCE to amend chapter 10 of the Code of Ordinances by adding a new article 20, in relation to inflammable motion picture film, and repealing the present article 20 of chapter 10, and subdivision 23 of section 1 of article 1 of chapter 10, relating to the same subject.

Be it Ordained, by the Board of Aldermen of The City of New York, as follows:

Section 1. Article 20 of chapter 10 of the Code of Ordinances is hereby repealed and a new article 20 is inserted in place thereof to read as follows:

Article 20

Sections 240 and 244 and part of Section 245 have already been published. Following is the continuation of Section 245:

§245. Special provisions applicable to motion picture film studios.

5. Openings between floors. All vertical openings between floors, including stairways, elevators, etc., shall be enclosed or otherwise protected as specified in articles 8 and 18 of chapter 5 of the Code of Ordinances, or as specified in the Labor Law when such law applies, except in a case where such construction shall have been approved by permit issued pursuant to a ruling of the Board of Standards and Appeals prior to the date when this article takes effect.

6. Exits. (a) Exit facilities shall satisfy the provisions of article 8 of the Building Code and the Labor Law, and in addition shall satisfy all the requirements of paragraphs b, c, d, e and f following.

(b) There shall be at least two means of exit, remote from each other, from every studio floor and enclosed set.

(c) At least two means of exit shall be provided from every dressing room section, one of which shall not require entering upon or crossing the main studio floor.

(d) Exits shall be designated with exit signs and lights, and where such exits are not plainly visible from any portion of the building which they serve, directional signs, arrows and other markings shall be painted on the walls to aid occupants toward reaching exits.

(e) No exit, or line of travel to same, shall be obstructed by stored scenery or other stored properties.

(f) No exit door shall be locked or fastened in any way while the studio is in operation. All doors shall open outward. All doors leading directly to the street or open area in excess of those lawfully required to be maintained may be fastened by panic bolts, or other locking devices, approved by the fire commissioner, permitting easy opening from the interior.

7. Fire guardians. In every motion picture studio there shall be regularly employed one or more trained men whose primary duty it shall be to guard against fire, to have control and charge of means provided for its extinguishment and to direct the employees in extinguishing any fire which may occur. Such trained men shall be certified to by the fire commissioner as qualified to perform their duties and shall be subject to rules and regulations as established by the fire commissioner.

8. Fire drills. A fire drill, conforming to the rules established by the Board of Standards and Appeals, shall be established in and conducted at least once each month in all motion picture studios. The employee in charge of the fire drill shall instruct all regular employees and all temporary employees, performers, and other who may enter the building as to the location of and means of exit.

9. Fire alarms. (a) An approved closed circuit interior fire alarm system shall be provided throughout all portions of any building in which there is a motion picture studio.

(b) An approved rate-of-rise or other approved fire alarm system with direct connection to a central office of one of the operating fire alarm companies or the fire alarm telegraph central station shall be provided and protecting the open studio floor, in connection with which there shall be one or more manual fire alarm boxes which shall be located so as to be readily accessible from the open studio floor.

10. Treatment of combustible material. (a) Materials constituting a permanent finish or interior surfacing on ceilings, permanent partitions and walls, and used to reduce the reflection or transmission of sound, shall, if not incombustible, be or treated so as to be of an approved slow burning composition or character.

(b) All fabrics of monk's cloth, canvas, muslin, burlap, silk, satin, velvet, velour or similar material suspended from ceiling or gridirons or hanging against walls or partitions, and all back drops, cycloramas and other theatrical appurtenances constructed in whole or in part of muslin, canvas, burlap and all artificial or natural trees, shrubbery, grass mats, straw, hay and similar combustible material shall be painted, sprayed or saturated with fire retarding or flame proofing material or otherwise rendered safe against fire to the satisfaction of the fire commissioner; provided, however, that furnishings of silk, satin, velvet and velour which are used in sets and included in the photographing of scenes need not be so treated.

11. Storage and handling of film in studios. (a) There shall be no film on the studio stage except in the magazines of cameras or sound recording apparatus, of which there shall not exceed two magazines for each camera or recording apparatus.

(b) All inflammable motion picture film except while being worked upon shall be kept in closed containers; the quantity of film not in containers shall not exceed one reel per person handling such film except as otherwise provided for.

(c) Other than what is in cabinets, the quantity of film in any work room shall not exceed the equivalent of 10 standard reels per operator, except that in magazine room or rooms not to exceed 50 reels may be kept in magazines on open metal racks, provided no other work is performed in said room or rooms and/or except as otherwise provided for.

(To be continued)

The Round Table

(Continued from page 720)

every day at 12 o'clock noon. No confusion has arisen from blasts blown on our siren and the one in the neighboring villages. The farthest our signals have carried is two miles.

Chief of Fire Dept., Walsenburg, Colo.: No tests are made on our siren. Confusion has not resulted from our siren signals and from one, in our neighboring village. Our siren has been heard as far as two miles away.

* * *

ANSWER TO PREVIOUS QUESTION

The following reply is in answer to a question on how many and what type of extinguishers are carried by the apparatus in the Fire Department and whether or not the Fire Department should service small extinguishers in the homes:

T. P. Treadwell, Chief, Ft. Collins, Col.: We carry one 2½-gallon soda acid, one 2½-gallon foam, one 2-gallon water pump type extinguisher, on each engine; two 2½-gallon soda acid, one 2-gallon foam, two 1 quart pump type C.T.C. on the Chief's car.

I think the Fire Department should service all small extinguishers. We do. We charge for the ingredients on all extinguishers. We do not call for them or deliver them. We tag and record each recharge date in our fire prevention bureau office. We also recharge all school and hospital, manufacturing and lumber yard extinguishers outside of the fire district.

We have in the fire district 6 2½-gallon foam, 101 2½-gallon soda acid, 63 1 quart and 2 quart pump type C.T.C., five 5-gallon calcium chloride pump type, 11 2-gallon calcium chloride, pump type, three 2½-gallon soda acid extinguishers that are not of the approved type. We check each extinguisher tag, giving date of recharge, whether or not it bears the underwriters' label, accessibility to the extinguisher itself, mounting and height from floor, in our quarterly inspection of the Fire Department.

FIRE DEPARTMENT ACTIVITIES

Corralitos, Cal., May Buy Apparatus—The fire district of Corralitos, Cal., is considering the purchase of fire apparatus.

Sunbury, Pa., to Have New Pumper—Sunbury, Pa., is awaiting the delivery of a Buffalo pumper.

Taunton, Mass., Buys Pumper—Taunton, Mass., has placed an order for a 1,000-gallon Ahrens-Fox pumper.

Glen Ellen, Cal., to Buy Apparatus—Funds have been raised in Glen Ellen, Cal., for the purchase of fire apparatus.

Dundee, Ill., to Buy Apparatus—Dundee, Ill., has invited bids for fire apparatus.

Marietta, O., to Have New House—Bids were opened in Marietta, Ohio, for the construction of a new fire station.

Rutland, Vt., Has Service Truck—A service truck for the Fire Department of Rutland, Vt., has been placed in service at the central station.

New Fire Station for Marietta, O.—Contracts have been awarded for the construction of a new fire station for Marietta, Ohio.

Oceanside, L. I., Raising Funds—Firemen of Oceanside, L. I., are raising funds for the purchase of land on which will be erected a new fire station.

West Chester, Pa., May Buy Apparatus—West Chester, Pa., is considering the purchase of fire apparatus at an approximate cost of $10,000.

Burns Valley, Cal., May Buy Apparatus—The Fire Department of Burns Valley, Cal., is raising funds for the purchase of apparatus.

Richmond, Cal., May Extend Fire Alarm—Richmond, Cal., may extend the fire alarm system to the Richmond annex district, some time next year.

E. Stroudsburg, Pa., to Buy Aerial Ladder—East Stroudsburg, Pa., is considering the purchase of an aerial ladder truck.

San Mateo, Cal., Opens Bids—San Mateo, Cal., has opened bids for a 600-gallon and a 500-gallon pumper. Two weeks previous, bids were opened and rejected.

Port Arthur, Tex., Awaits Apparatus—Port Arthur, Tex., is expecting an early delivery of a 750-gallon pumper equipped with an eighty-gallon booster tank.

Grayville, Ill., to Buy Apparatus—The Council of Grayville, Ill., voted to purchase a 300-gallon pumper made by the General Fire Truck Company of St. Louis.

Keating, Pa., May Buy Apparatus—The newly formed Fire Department in Keating, Pa., is considering the purchase of a pumper and equipment.

Mt. Lebanon, Pa., May Buy Apparatus—Bids have been invited by the township of Mt. Lebanon, Pa., for the purchase of a 750-gallon pumper.

Fire Department May be Formed Near Gresham—Plans are being made for a rural fire protection district within a five mile radius from the city limits of Gresham, Ore.

Hicksville, L. I., to Erect Fire House—Hicksville, L. I., voted to erect a new fire station to cost $80,000. It will be erected on the site of the present fire station.

Port Washington, Wis., to Buy Apparatus—Port Washington, Wis., has voted to purchase a ladder truck carrying a 750-gallon pumper.

Irvington, N. J., Contracts for Fire Alarm—Irvington, N. J., has placed an order with the Gamewell Company, for the installation of a fire alarm system to cost $9,840.

Ft. Dodge Has Apparatus for Grass Fires—Fort Dodge, Ia., now has apparatus designed to fight grass, leaves and dump fires.

Harrison, N. Y., Wants New Apparatus—Firemen of Harrison, N. Y., have circulated petitions for the purchase of new fire apparatus.

Indianapolis to Build Fire House—Indianapolis, Ind., has sold a $60,000 bond issue to finance the construction of three new fire stations. The three new fire stations will replace old stations now in service.

Fire Department Formed in Seabrook, Mass.—A Fire Department has been formed in Seabrook, Mass., with Austin Weare, Chief. The department has one piece of motorized apparatus.

Crosby, Minn., Orders Fire Apparatus—Crosby, Minn., has ordered Pirsch apparatus consisting of a 350-gallon pump and a 150-gallon booster tank mounted on a Chevrolet chassis.

Pasadena, Cal., Orders Pumper—A Mack triple combination pumper has been ordered in Pasadena, Cal., to replace a 20-year old machine. The old apparatus will be held in reserve, according to Chief Coop.

Apparatus to Respond to Outside Calls—The Council has granted permission for apparatus of Postville, Ia., to respond to outside calls. A charge of $25 will be made for the apparatus and five an hour for the crew.

Chief Brennan to Have New Sedan—Chief Charles J. Brennan of the San Francisco Fire Department will have a sedan to drive to fires. In the past the department had had only touring cars.

Gary, Ind., Wants New Fire Alarm System—Gary, Ind., will soon invite bids for a new fire alarm system. It is expected that a bond issue will be floated to pay for this improvement.

Baldwin, L. I., to Buy Apparaus—At a special election, Baldwin, L. I., voted to appropriate $29,500 for the purchase of fire apparatus and equipment, and for the construction and alteration of buildings.

Ex-Chief of Steubenville, O., Injured—W. B. Martin, seventy-eight years old, a retired Fire Chief of Steubenville, Ohio, was seriously injured when he was struck by an automobile.

Cleveland, O., to Buy Aerial Ladders—Edwin D. Barry, Safety Director, Cleveland, Ohio, has announced that the city will purchase three 85-foot aerial ladders. The city will trade in two old trucks.

Al. Smith Dedicates Hampton Bays Station—Former Governor Alfred E. Smith, of New York, was the principal speaker at the dedication of the new fire station at Hampton Bays, L. I. The former Governor was presented with an honorary membership certificate.

Dallas, Tex., Plans for Drill Tower—The Engineering Department of Dallas, Tex., has prepared plans for the fire drill tower demanded by the State Fire Insurance Department. The tower will be located in Fair Park in the vicinity of the old athletic stadium. The tower will be of steel construction with a brick exterior and will cost about $7,000.

Greenwich, Conn., Considers Fire Plan—A meeting was held in Greenwich, Conn., to inaugurate a fire emergency plan for the protection of the township. Representatives of a number of Greenwich fire companies attended. It was pointed out that several new pumpers are needed to replace obsolete and old ones now in service.

Chief Chase, of Lynn, Will Resign—Chief Edward E. Chase, of Lynn, Mass., has presented his resignation which may become effective next month. He left the date for the Mayor to decide. Chief Chase has held his office nineteen years, two years longer than any other Chief in the Fire Department. He has been a member of the department for forty-six years.

Fall River Station Nearly Finished—The new fire station being constructed for Fall River, Mass., at a cost of $158,000 is nearly completed. The exterior of the building is of gray brick with a base course of Fall River granite. There will be four apparatus doors on Bedford Street and five on Troy Street. In the basement are rooms for washing and drying hose. The office of the Chief, the Fire Commission, the rest rooms and dormitories for the men will be located on the second floor. Seven sliding poles will connect the second floor with the apparatus room.

Fire Alarm Headquarters Urged for Minneapolis—A modern isolated fireproof fire alarm headquarters has been recommended for Minneapolis, Minn., by engineers of the National Board of Fire Underwriters. In addition, they recommended that fire alarm boxes be so placed that a box shall be within five hundred feet of every building in the mercantile and manufacturing sections, and elsewhere within eight hundred feet of every valuable group of buildings. Two new ladder companies equipped with combination city service trucks, were also recommended, but not considered as important.

PROPOSED IMPROVEMENTS

Minneapolis, Minn.—National Board of Fire Underwriters recommended that isolated fireproof fire alarm headquarters be provided; that fire alarm headquarters equipment be provided in accordance with regulation of N. B. F. U. for Class A fire alarm systems; and that additional fire alarm boxes be installed. Charles W. Ringer, Chief of Fire Department.

West Chester, Pa.—Reports state council considering purchase of pumper for fire department.

Oceanside, N. Y.—Columbia Hose Co. to raise funds for purchase of site for new fire station.

Hawthorne, N. J.—Board of Fire Commrs. and Director of Public Safety, John C. Houman, taking steps toward purchase of additional piece of fire apparatus.

Rowlesburg, W. Va.—Vigilant Reel & Hose Co. held meeting recently to discuss ways and means of purchasing fire truck.

East Orange, N. J.—City to take bids about Nov. 1 for construction of fire headquarters on Main St. Estimated cost $150,000.

Stittville, N. Y.—Stittville Fire District to hold meeting to vote on purchase of new fire apparatus, according to reports.

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Manufacturer of established FIRE ALARM equipment desires experienced Salesmen. Give reference and lines now handling. Address: Box 380, c/o FIRE ENGINEERING, 24 West 40th St., New York.
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Position Wanted

Fireman, 35 years of age; 6 years municipal experience; 2 years chief of industrial brigade. Further details and references furnished on application. Address Box 425, care of FIRE ENGINEERING, 24 West 40th St., New York City.
9-30

CONVENTION DATES

Oct. 6-8—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA, 52nd Annual Convention, Wilkes-Barre, Pa. Secretary, Charles E. Clark, 411 Bellevue Ave., Wayne, Pa.

Oct. 12-16—NATIONAL SAFETY COUNCIL. 20th Annual Safety Congress, Chicago, Ill. Director, W. H. Cameron, Headquarters, 20 North Wacker Drive, Chicago, Ill.

Oct. 14-17—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 59th Annual Convention, Plaza Hotel, Havana, Cuba. Meeting Hall, Asturiano Club. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Charles A. McGinley, East Orange, N. J.

Oct. 15—MISSOURI VALLEY ASSOCIATION OF FIRE CHIEFS. Annual Convention, Havana, Cuba, at the same time as I. A. F. C. Secretary, Chief Ray Tiller, Waterloo, Ia.

Oct. 20-22—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. 50th Annual Convention, Norfolk, Neb. Secretary-Treasurer, H. A. Webbert, Kearney, Neb.

Oct. 20-22—RAILWAY FIRE PROTECTION ASSOCIATION. 18th Annual Meeting, Cleveland, Ohio. Secretary-Treasurer, R. R. Hackett, Baltimore & Ohio Railroad, Baltimore, Md.

Oct. 28—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY, N. Y. Monthly Meeting, Fire Headquarters, Peekskill, N. Y. Secretary-Treasurer, E. Riviere, Fire Headquarters, Larchmont, N. Y.

May 9-12, 1932—NATIONAL FIRE PROTECTION ASSOCIATION. 36th Annual Meeting, Atlantic City, N. J. Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 11, 1932—DEL-MAR-VA VOLUNTEER FIREMEN'S ASSOCIATION. 3rd Annual Convention, Cape Charles, Va. Secretary, W. A. Karpa, Cape Charles, Va.

June, 1932—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION, 60th Annual Convention, Gibsonburg, Ohio (exact date to be decided later). Secretary, Harry Smith, Supt., Water Works, Port Clinton, Ohio.

June 21-24, 1932—ILLINOIS FIRE COLLEGE. 8th Annual College, University of Illinois, Champaign-Urbana, Ill. Director, Prof. L. H. Province; Secretary, Asst. Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Dr. Price on Western Lecture Tour

Dr. David J. Price of the Bureau of Chemistry and Soils, U. S. Department of Agriculture, will lecture on dust explosions at a number of meetings to be held in western cities. His schedule follows:

October 2 and 3—Multonomah Hotel, Portland, Ore.
October 5 and 6—Sir Francis Drake Hotel, San Francisco, Calif.
October 8—Hotel Utah, Salt Lake City, Utah.
October 9 and 10—Albany Hotel, Denver, Colo.
October 12 and 16—Stevens Hotel, Chicago (National Safety Congress).

Kelso, Wash., to Have New Fire House—Work has been started on the new fire station to be erected in Kelso, Wash. The station will be constructed by the Fire Department without any cost to the city.

Reinholdt Heads Iowa Firemen—H. C. Reinholdt of Manning, Ia., was named President of the Iowa Firemen's Association. J. J. Lynch, Vinton, is First Vice-President and C. Stephenson, Red Oak, Second Vice-President. Paul A. Soener of Independence and W. L. Allen of Ames will continue, respectively, as Secretary and Treasurer.

Dynamite Explodes Near Dallas

Fire started an explosion in one of the powder storehouses of the Dupont Company, eight miles south of Dallas, Tex., rocked the entire city of Dallas and badly damaged homes in the neighborhood. Twelve persons were injured. The two-story brick magazine contained 35,000 pounds of dynamite and other explosives. The large crowd of motorists who rushed out to view the ruins hampered the first aid work. The magazine was located on a farm, and for that reason, the damage was not as great as it might have been otherwise.

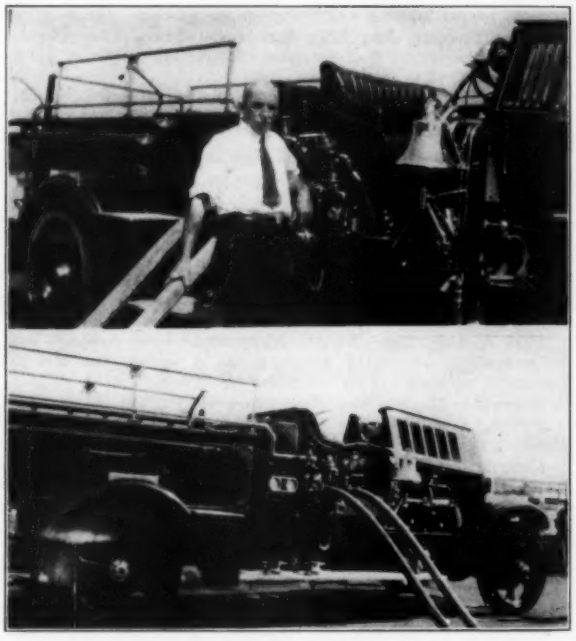
V-12 Pumper Tested in New Rochelle

An American-La France 1,000-gallon pumper with the new 12-cylinder engine and provided with an 80-gallon booster tank was delivered to New Rochelle, N. Y., and successfully passed the standard three-hour Underwriters' tests. It is of the Metropolitan V-12 type.

The test was conducted in the presence of Chief Walter Jones of the New Rochelle Fire Department and a number of Chiefs from municipalities in Westchester County.

The specifications called for 1,000 gallons at 120 pounds pressure for two hours, 500 gallons at 200 pounds pump pressure for one half hour and 333 gallons at 250 pounds pump pressure for one half hour.

According to figures computed by an engineer of the National Board of Fire Underwriters, who had charge of the test, the new type pumper delivered 1,082 gallons at 133 pounds pump pressure for two hours with an engine speed of 1,491 r.p.m., and a pump speed of 497 r.p.m. It delivered 519 gallons at 210 pounds pump pressure for one half hour with an engine speed of 1,278 r.p.m., and a pump speed of 273 r.p.m. On the last test which was also for a half hour, it delivered 378 gallons at 261 pounds pump pressure. The engine speed was 927 r.p.m., and the pump speed 198 r.p.m. In each of the tests, the results were far above the specifications.



Views of the Metropolitan V-12 1,000 Gallon Pumper Delivered to New Rochelle, N. Y.

Chief Walter Jones of New Rochelle is shown in the upper photograph. Suction was obtained through a line of five-inch hose from a river, and the discharge through two 2½-inch lines.

Urbana, O., Votes for Purchase of Apparatus—Urbana, Ohio, voted to levy a ¼-mill tax to finance the purchase of new fire apparatus.

Chief Mahon of Middletown, N. Y., Dead—All fire stations in Middletown, N. Y., were draped in honor of the late Thomas Mahon, former Fire Chief. He was a member of the McQuoid Engine Company for more than thirty years.

T. P. Treadwell
Chief of Fire Dept.
Fort Collins, Colo.

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WATER DAMAGE
and
INSURANCE RATES
With
Shuredry
SALVAGE COVERS

"May I have eight more of your folders 154-R-1. They are just what I have been looking for to use during Fire Prevention Week at the grade schools to show the children what we mean by the salvage method used by our department. We have twelve of your standard SHUREDRY covers in service, and our next order will be for SHUREDRY GREEN-BAK, as they don't show the dirt so plainly as do our white ones. But at that, we would not sell them back to you for three times their cost if we could not get them replaced."

T. P. Treadwell

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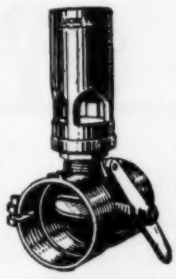

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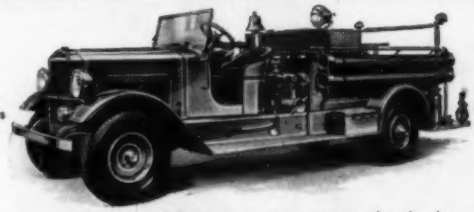

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FALSE ALARMS

Courtesy of Cosmopolitan Magazine

'Now, Boys, Promise Not to Toss Me"

When better dates are made they won't be blind. Ask the man who 'phones one.

THE INCENTIVE

Up on the second floor of the building from which came sounds of bounding billiard balls, two gentlemen were enjoying both the game and the conversation.

"After all, if it wasn't for our wives, would either of us be where we are now?" asked one.

"Quite right," said the other. "But then isn't that what fire halls are built for."

But after all, the vacation you really enjoy best is the one the boss takes.

USEFUL SLIP

While driving down the avenue she spied a window that advertised a sale on the hats that are a cross between a premature derby and something that had shrunk very much. She parked the car at the first free opening she saw near the curb. When the girl came out she found a ticket for parking beside a hydrant.

"How lovely," reasoned the shopper. "I'm going to use it to park beside a hydrant every time I'm going into town. Just think of how useful it is?"

Methuselah lived 969 years — but they had no regular physicians in those days.

THE RESULT

One of the social reformers, of which there are many, set up his speaking platform outside of a hotel in which a Chief's convention was in progress. He started his lecture just when some of the visitors were leaving for the noon hour recess. Some gathered around because of curiosity.

"—And another thing," continued the speaker, "a man who can stop the tobacco habit can do anything."

"Except one thing," shouted a listener.

"Well sir, and what is that?" asked the reformer.

"He can't stop boasting about it?" came the retort.

And goodness knows it was bad enough when a woman couldn't see a traffic signal with two eyes, without the milliners designing a hat that pulls down over one of them.

NOT AT HOME

A reporter called at the home of the Fire Chief to obtain information concerning the Chief's plan for improving the Fire Department which was to be sent to the Budget Committee.

"I'm sorry," said the Chief's wife when she had opened the door, "but the Chief is in bed and nobody can see him."

"Nothing serious, I hope," said the reporter who sensed an unexpected story.

"No nothing serious. I am just mending a rip in his trousers."

Another trouble with this country is the only great open spaces are around the fire hydrants.

OUT OF LUCK

Firemen are too busy fighting blazes to worry about the etiquette of a dining room. But then, when they attend formal gatherings or go out of town to participate in a meeting, it is necessary to eat in a hotel and worry about the large array of silverware on display in front of them.

The one who related his one embarassing moment, had the ill fortune to be served by a very snappy waitress. When he called her over, she said:

"Yeah, Mister, I know that you are in a tough spot. Ya ate ya salad with a spoon an' now ya gotta eat ya soup with a fork."

And then there's the speakeasy proprietor who got raided and sued the policeman on the beat for breach of promise.

QUITE A JOB

Although he stopped selling fire apparatus, the thrill of attending fire conventions did not disappear. At one of the state gatherings, his old friends soon recognized him. He was teased about his new wealth.

"I want you to understand," said the salesman, "that I got my money by hard work."

"Why I thought it was left to you by your uncle!"

"So it was, but I had to work to get it away from the lawyers."

"This will remove your bad breath," assured the hangman to the criminal as he adjusted the knot around his neck.

WASTED EFFORT

Though he may have been looked upon as a hero by the lay public, he was far from that at home. He was bemoaning his luck to his bosom friend.

"You oughta snap out of it," said the friend, "and show the wife whose boss in your home."

"Tain't necessary. She knows."

—Drawing by "Art" Espey

Inveterate Story-Telling Visitor: "Hold on a Couple of Minutes, Cap. You Ain't Heard the Best Part of This One"

YOUR CATALOG PAGE

Fire Protection Equipment and Supplies

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2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
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9 Alarms, Thermostatic.
10 Asbestos Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banner, Trumpets, etc.
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14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Firm Alarm, Municipal
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31 Cutting & Welding Equipment, Electric.
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50 Foam Liquid Extinguishers.
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52 Gas & Smoke Helmets.
53 Goggles, Firmen's.
54 Helmets, Metal, etc.
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56 Hose Clamps.
57 Horse, Fire.
58 Hose, Chemical.
59 Hose Holders.
60 Hose Jackets.
61 Hose Standardization Tools.
62 Hydrant Draining Pumps.
63 Hydrants, Fire.
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65 Jacks, Shoring & Prying.
66 Ladders, Fire.
67 Lightning Arresters.
68 Motorcycles, Fire Dept. Equipped.
69 Nets, Life.
70 Nozzles, Pipes & Misc. Brass Goods.
71 Packings, Pumps.
72 Pads, Pole Hole.
73 Paints, Fire Resisting.
74 Priming Ether, Motor.
75 Pumping Cars, Standard.
76 Pumping Cars, Foam.
77 Pumps, Fire Apparatus.
78 Pumps, Fire Service, Stationary.
79 Pumps, Portable for Fire Protection.
80 Record Books, Fire.
81 Relief Valves.
82 Reviving Apparatus, Oxygen.
83 Rubber Clothing.
84 Salvage Covers.
85 Searchlights.
86 Shingles, Fire Retardant.
87 Shirts, Firemen's Special.
88 Sirens, Apparatus & Chiefs' Cars.
89 Sliding Poles.
90 Soda & Acid Chemicals.
91 Spark Plugs, Fire Apparatus & Motorcycles.
92 Squad and other Auxiliary Cars.
93 Sprinkler Head Shut-Offs.
94 Sprinkler Supervisory Service.
95 Sprinkler Systems, Automatic, Foam.
96 Sprinkler Systems, Automatic, Water.
97 Steam Fire Engines.
98 Syphons, Water.
99 Tarpaulins & Fire Blankets.
100 Tetrachloride Chemicals.
101 Thawing Equipment, Hydrant.
102 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid.
103 Tractors.
104 Traffic Clearing Systems.
105 Triple Combination Pumping Cars.
106 Uniforms.
107 Water Towers.
108 Wheels, Cushion.
109 Whistles, Fire Alarm, Compressed Air.
110 Whistles, Fire Alarm, Steam.
111 Whistles, Fire Apparatus.
112 Wrecking Trucks.

Just a Reminder!

Whenever you are in the market for new equipment you naturally want to get complete information from all reliable manufacturers before you place the orders for your department.

This page is a feature of every issue to make it convenient for you to get all this information without cost to you and without placing you under any obligation whatever to buy from any particular manufacturer.

You only have to run down the list of equipment and mail in the coupon below with your name and address and the numbers that indicate what you are interested in and we will then have the leading manufacturers of this equipment send you complete information direct — so why not let us help you get what you want? We are glad to be of service.

FIRE ENGINEERING, 24 West 40th St., New York City Date.....

As a fire protection official I should like to have descriptive literature and complete information mailed to me, without cost or obligation, on the equipment indicated by the followng numbers:

Nos. .....
Nos. .....
Nos. .....
Nos. .....

Name .....
Position .....
Street .....
City and State .....

For Information on Any Equipment Not Listed, Write on This Page or Use Separate Sheet

9-2

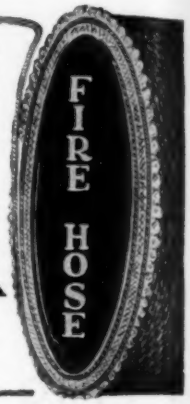
The most essential accessory to modern fire apparatus—National Foam Equipment.

NATIONAL FOAM SYSTEM, Inc.
Philadelphia
New York Chicago Tulsa

Baker Fabric

A jacket weave which provides multiple jacket strength with single jacket flexibility. Write for details.

MANUFACTURED EXCLUSIVELY BY
HEWITT - GUTTA PERCHA
RUBBER CORPORATION
BUFFALO, N. Y.
(Also makers of single and double jacket hose)
"Territories Available"

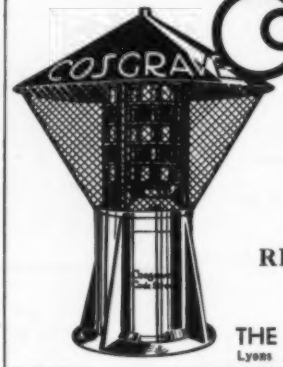


Comfort and Protection With
CAIRNS CUSHION LINED HELMETS

Comfortable as your old felt hat.
Won't shake off.
Never go to a fire without the protection of a good helmet.

Send for Catalog No. 227

CAIRNS & BROTHER
72 GRAND STREET Established 1836 NEW YORK, N. Y.



COSGRAVE CODE SIREN

Offers a profitable
OPPORTUNITY
for wide-awake
REPRESENTATIVES
in the fire field

Communicate Now
Rich Territories Available
THE COSGRAVE COMPANY
Lyons Ave. and Coit St., Irvington, N. J.

Bi-Lateral Fire Hose

The one hose that does not require frequent replacements.
Always reliable for fire service no matter how old, if the jackets are intact.
Lined with three rubber tubes, specifically guaranteed for six years.

BI-LATERAL FIRE HOSE CO.
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20 N. Wacker Drive, Chicago, Ill.

FIRE PUMPS

NORTHERN PUMP COMPANY
MINNEAPOLIS, MINNESOTA, U. S. A.
ESTABLISHED 1907

A Word to our Advertisers

WILL you cooperate with us in our effort to keep the advertising pages of FIRE ENGINEERING just as live and interesting as the editorial pages? Send us new photographs and copy material, news matter, etc., for your advertising space just as often as possible.

Remember that you are not getting full value from your advertising unless you make it interesting, or give us the opportunity to do it for you. Think it over—send us new material.

The Publishers

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When Ordering New Equipment

PATRONIZE THE MANUFACTURERS YOU FIND LISTED ABOVE

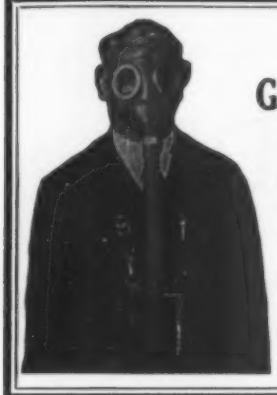
They are leaders in their respective lines and are in position to take the best possible care of your requiremmnts.

The fact that they are using advertising space in FIRE ENGINEERING indicates they want your inquiries and will be glad to submit specifications and prices without placing you under any obligations whatever.

They are ready and anxious to serve you courteously in every way possible. Be sure to write them for complete information when considering new purchases—and place your orders with them.

They are helping us make the paper better by their advertising. You can help them and help us and help yourself by giving them your business. Let's all pull together! All will benefit.

The Publishers



New Victor Gas and Fume Mask

Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Quality.

Over 5,000 Victor Gas Masks in Service

Full Line Fire Dept. Supplies and Equipment

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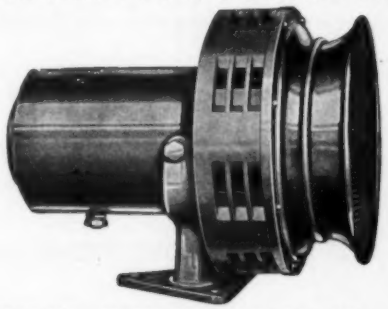

THE STERLING SIREN FIRE ALARM CO., INC.
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Hedberg Super Sirens

"The World's Best by Test"

offer the world's greatest and most versatile range of choice involving sizes and methods of operation.

Write for descriptive matter showing sirens that have never lost in competition.

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SAN JOSE CALIFORNIA

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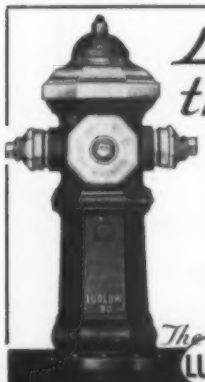
1320 Ridge Ave., Philadelphia, Pa.

Established 1864

DOOR SPRINGS

Complete Automatic Spring Outfits for Doors Opening In and Out. Used throughout the world. Once on the doors your door opening troubles cease. They last a lifetime. Send for Bulletins.



Looks good to the TAXPAYERS

The LUDLOW DIAMOND

self-illuminating hydrant

Write for new descriptive folder—free to any interested official.

The LUDLOW VALVE MFG. CO.
TROY NEW YORK

EDDY Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
Waterford, N. Y.

James B. Clow & Sons, Chicago Agents

G

The new Rensselaer Catalog "G" is now ready for distribution. Officials desiring the latest information on RENSSELAER VALVES and COREY HYDRANTS are invited to fill in and mail the coupon below.

RENSSELAER VALVE CO.,
TROY, NEW YORK.

Send Catalog "G" to

Name .....

Title .....

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City .....

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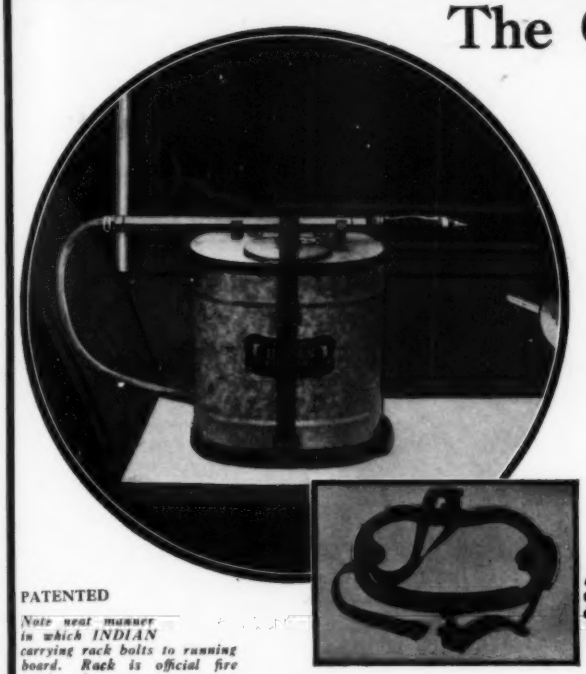
Is for your convenience

Why not use it?

The Outfit Is Complete—



PATENTED

Note neat manner in which INDIAN carrying rack bolts to running board. Rack is official fire truck red.

CITY and rural departments all over the U. S. have come to appreciate the immense value of Smith INDIAN Fire Pumps for fighting forest, grass, rubbish or roof fires —in fact any blaze that requires a portable, quick action extinguisher.

An INDIAN uses only clear water, and with a 5 gallon tank *curved in shape* so it won't slide around on the carrier's back, you can easily imagine the many ways this fire pump is used to advantage. The running board carrying rack makes the outfit complete.

Copies of testimonials from fire chiefs, forest rangers and private citizens sent on request.

Agents Wanted!

WRITE FOR FOLDER AND PRICES

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"Tank is Curved to Snugly Fit the Back and Pump Has No Leather Plunger to Give Trouble"

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WORLD WIDE PHOTO

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A broken MATHEWS cannot leak

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Easily replaced without digging

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In business continuously since 1803

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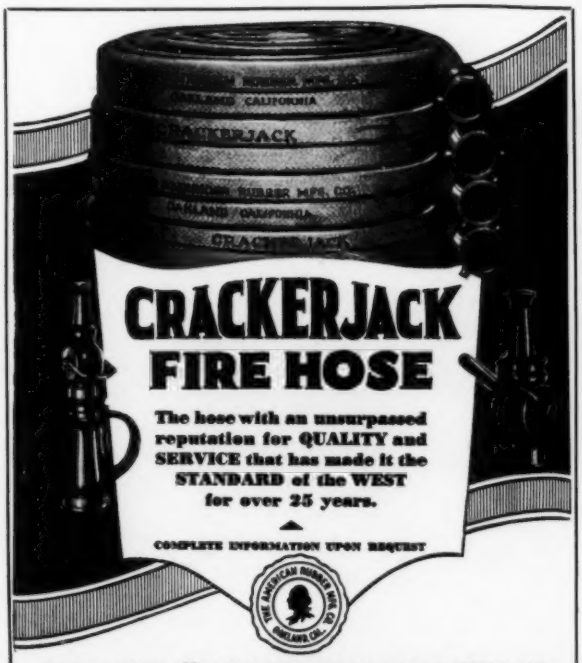
CAST IRON PIPE AND FITTINGS

SAND SPUN (centrifugally cast) and PIT CAST (Reg. U. S. Pat. Off.)

GATE VALVES



CRACKERJACK FIRE HOSE

The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD of the WEST for over 25 years.

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—for 40 years, truly Baptized by Fire.

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